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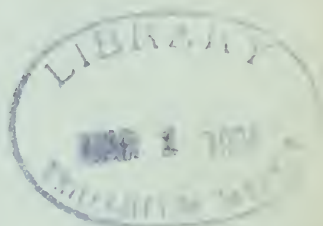
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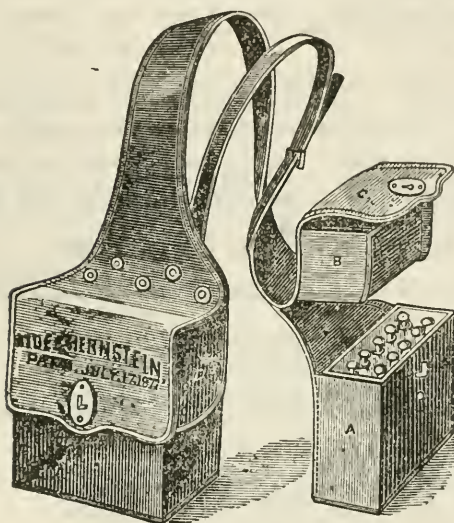
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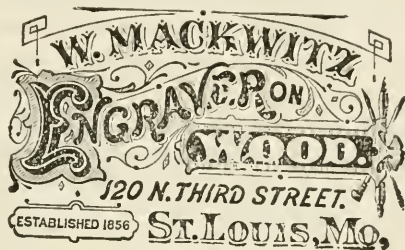
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L. Elsberg, M. D., " "
C. Wagner, M. D., " "
F. H. Bosworth, M. D., " "
Frank H. Hamilton, M. D., " "
Geo. M. Lefferts, M. D., " "
Beverly Robinson, M. D., " "
J. Solis Cohen, M. D., Philadelphia.
Carl Seiler, M. D., " "
Laurence Turnbull, M. D., " "
F. I. Knight, M. D., Boston.
E. Cutter, M. D., " "
B. A. Watson, M. D., Jersey City.
J. H. Caldwell, M. D., Baltimore.
John H. Hartman, M. D., " "
J. A. Ireland, M. D., Louisville.
E. Andrews, M. D., Chicago.
F. H. Davis, M. D., " "
David Prince, M. D., Jacksonville, Ill.
J. J. R. Patrick, D. D. S., Belleville, Ill.

Reuben A. Vance, M. D., Cincinnati, O.
J. C. Vaughan, M. D., " "
E. L. Shurley, M. D., Detroit, Mich.
D. W. Brickell, M. D., New Orleans, La.
J. F. Hibberd, M. D., Richmond, Ind.
G. W. Burton, M. D., Mitchell, Ind.
Thad. M. Stevens, M. D., Indianapolis, Ind.
J. W. Compton, M. D., Evansville, Ind.
S. Charlton, M. D., Seymour, Ind.
Z. C. McElroy, M. D., Zanesville, O.
J. M. Keller, M. D., Hot Springs, Arks.
J. W. Trader, M. D., Sedalia, Mo.
J. T. McColgan, M. D., Celina, Tenn.
J. W. Thompson, M. D., Paducah, Ky.
J. W. Singelton, M. D., " "
G. M. B. Maughs, M. D., St. Louis.
A. P. Lankford, M. D., " "
John T. Hodgen, M. D., " "
J. K. Baudry, M. D., " "
Wm. Dickinson, M. D., " "
L. Ch. Bousliniere, M. D., " "
Ed. Borek, M. D., " "
A. H. Hausman, M. D., " "
S. Pollak, M. D., " "
W. H. Ford, M. D., " "
J. C. Darby, M. D., Mount Sterling, Ky.

Contributions from most of the above list of prominent physicians have appeared in the Journal during the year and are a sufficient guarantee of its popularity and excellence.

Subscriptions and all Communications should be addressed to THE EDITOR, 1225 Washington Avenue, St. Louis, Mo.

Glycerite of Animal Hypophosphites.

A BRAIN AND NERVE FOOD.

Composed of the Phosphorous principles of animal brain, blood and tissues, either normally in the Hypophosphite form, or so produced in the isolation of them.

Hensing isolated oleo and glycerio-nitrogenous hypophosphites from animal brain in 1779. Jordan obtained them from this source in 1779, and Vauquelin in 1812. Courbe in 1834 found that the brain contained four different fatty matters, containing phosphorus in an oxidizable form. Polk in 1857 found in those dead from phthisis that the cerebellum and medulla oblongata did not contain over half of the amount of the oleo and glycerio-nitrogenous hypophosphites normal to those nerve masses (see *Medical and Surgical Reporter*, Aug. 2d, 1873).

The Glycerite of organismal, animal, or brain hypophosphites is, then, nothing more or less than a solution of the oxidizable phosphorous principles discovered in animal brain by Hensing in 1779, a hundred years ago; a discovery confirmed by Jordan and others. There is nothing more mysterious, quackish, secret, or proprietary in this preparation, than there is in pepsin, pancreatine, or quinine. Dr. Polk has never copyrighted any preparation or violated either the letter or spirit of the code of ethics in this or any other manner. His claim to priority of use of isolated brain hypophosphites is sustained by Dr. Wiley, *Louisville Medical News*, June 2d, 1877; Dr. Ashmead, *Detroit Medical Journal*, October, 1877, and Dr. Williamson, *Cincinnati Medical News*, December, 1877.

The value of the animal hypophosphites must, however, be decided by clinical results, the only criterion by which any medicine can be estimated.

Twenty physicians declare it superior to any remedy they had previously used in phthisis.

Twelve physicians say it is unequalled in nerve exhaustion.

Eight physicians say it surpasses cod liver oil, iron, quinine, and other tonics as a blood maker, and nearly a hundred attest its efficacy in the nerve pains and troubles of women.

In obstinate vigilance it often produces calm and natural sleep, overcoming entirely the need for opiates. In these cases it acts by supplying the hungry brain with its normal pabulum. In this manner, also, it remedies nerve and brain exhaustion far more efficiently than any agent hitherto employed, as also recuperates the system shattered by sexual excesses. As a simple restorer of sexual debility it is inferior to Damiana. Glycerite of Animal Hypophosphites being the oxidizable phosphorous elements of the blood and brain, its physiological action is merely that of a nutrient, restoring to the system any deficiency which may exist of these elements. By its scientific and appropriate use, much good may be done with it, yet like every remedial agent, its value will in a large measure depend upon its judicious employment. Febrile and inflammatory conditions contra-indicate its use, as also plethora and the apoplectic diathesis.

For a detailed account of its indications and contra-indications, see Dr. Polk's treatise "Tuberculosis and Scrofulosis Causes, Lesions and Therapeutics." Imp. octavo, 952 pages, and "Glycerite of Kepheline," pamphlet, 16 pages: Latter sent free by addressing C. G. POLK, 2219 Catherine street, Philadelphia.

Composition of Glycerite of Animal Hypophosphites.

Isolated Hypophosphite of Ammonium.....	parts, 6
" " Calcium	" 6
" " Sodium	" 4
" " Magnesium	" 8
" " Potassium	" 5
" " Iron (as a proto-salt)	" 3
Glycero Nitrogenous Hypophosphite	" 15
Free Hypophosphorous Acid	" 3
Pure Glycerine	" 50

DOSE: Twenty to thirty drops, thrice daily. Sold by

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In the treatment of DYSPEPSIA, CHLOROSIS, ANEMIA, NERVOUS and MUSCULAR DEBILITY, NERVOUS and SICK HEADACHE, DYSMENORRHEA, MENORRHAGIA, AMENORRHEA, diseases of the Kidneys and Bladder, and such like organic or functional disturbances, I know of no remedy upon which I can rely with more certainly satisfactory results than the "Seven Springs Mass."

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Many other testimonials could be added, had we the space, our object being to give such evidence of its claims as would fairly represent its character and indicate its appreciation. If we have succeeded in this, every physician will at once see the importance of such a remedy in his practice.

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TO THE MEDICAL PROFESSION.

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THIS PREPARATION

Contains from three to five times the Medicinal and
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MALTINE is a highly concentrated extract of malted *Barley, Wheat* and *Oats*, containing, undiminished and unimpaired, all the medicinal and nutritious principles found in these cereals. By the most carefully conducted scientific process we are enabled to offer to the medical profession a perfect article, possessing from *three to five times* the therapeutic and nutritive merit of any foreign or domestic Extract of Malt.

In support of our claims we invite the attention of the profession to the following points, viz.:

FIRST: In the manufacture of *MALTINE* the evaporation necessary to reduce it to its great density is conducted in vacuo, at a temperature ranging from 100° to 120° Fahr.: while most manufacturers of Extract of Malt resort to "open pan" or low pressure steam boiling, by neither of which processes can the extract be so produced as to preserve the Diastase, Phosphates and Albuminoids on which its remedial value so greatly depends, and the product is either of a dark color or of low specific gravity, possessing little virtue aside from the saccharine matter which it contains.*

SECOND: Carbon, Hydrogen, Nitrogen, Phosphorus, Sulphur, Iron, Magnesium, and Potassium, are essential elements in the food of man, and it is only in *MALTINE*, containing the combined properties of malted *Barley, Wheat* and *Oats*, that all these principles can be found in the proper proportions: Extract of Malt made from *Barley alone* is wanting in some of the most important of these elements.

THIRD: *Gluten* is the most nutritious principle found in the cereal, and is the only vegetable substance which will, alone, support life for a great length of time. It is composed of three distinct nitrogenous principles, together with fatty and inorganic matters, and is analogous to animal fibrin. *MALTINE* contains twenty times the quantity of *Gluten* found in any Extract of Malt.

FOURTH: *LIEBIG* says "Wheat and Oats stand first among our list of cereals in combining all the elements in proportion necessary to support animal life. They are especially rich in muscular and fat producing elements." The only reason we use Malted Barley in the manufacture of *MALTINE* is that it contains larger proportions of mineral matter (bone producers,) and Diastase. It is deficient in all other essential elements.

We believe that any practitioner will readily recognize the superiority of MALTINE, and request a trial and comparison of merits with any article offered for similar uses.

* As a sure test for Diastase, and the Albuminoids a small quantity should be put in a test tube or small vial, largely diluted with water, and heated to the boiling point, when the Albumen, if present, will coagulate, and appear in little flocculent particles throughout the liquid. If the extract remains clear, it is proof that it had already been coagulated by excessive heat, and removed by filtration during the process of manufacturing. Any heat which will coagulate Albumen will inevitably destroy the digestive power of Diastase.

MALTINE AND ITS COMPOUNDS

can undoubtedly be used with greater success than any other remedy now known, in cases of general and nervous Debility, Indigestion, Imperfect Nutrition and deficient Lactation; Pulmonary affections, such as Phthisis, Coughs, Colds, Hoarseness, Irritation of the Mucous Membrane and difficult expectoration; Cholera Infantum and wasting diseases of children and adults; Convalescence from Fevers, and whenever it is necessary to increase the vital forces and build up the system.

WE MANUFACTURE THE FOLLOWING PREPARATIONS, THE FORMULAS AND DOSES OF WHICH ARE GIVEN IN OUR DOSE BOOKS AND ON THE LABEL ATTACHED TO EACH BOTTLE.

MALTINE With Hops.

MALTINE, Ferrated:

This combination is specially indicated in Anæmia and Chlorosis, and in all cases of defective nutrition where Iron is deficient in the system.

MALTINE With Phosphates Iron and Quinia;

A powerful general and nutritive tonic.

MALTINE With Phos. Iron, Quinia and Strychnia;

A powerful nutritive, general and nervous tonic.

MALTINE With Pepsin and Pancreatine:

One of the most effective combinations in Dyspepsia, Cholera Infantum and all diseases resulting from imperfect nutrition. It contains three of the all-important digestive agents, Diastase being one of the constituents of MALTINE. We believe there are few cases of Dyspepsia which will not readily yield to the medicinal properties of the above combination, while the system is invigorated by its nutritive qualities.

MALTINE With Beef and Iron:

One of the most valuable combinations in case of general Debility, where there is deficient nutrition and a deficiency of Iron in the system.

MALTINE With Alternatives:

In this preparation MALTINE is combined with the most valuable Alternatives known, such as Iodide, Bromides and Chlorides, and will fully meet the requirements of the practitioners in Syphilis, scrofula and all depraved conditions of the blood.

MALTINE WINE.

This preparation contains all the medicinal and nutritive constituents of MALTINE, less 60 per cent, of the transformed starch or glucose, which renders the preparation lighter and more acceptable to some stomachs, and is recommended only in such cases.

MALTINE WINE With Pepsin and Pancreatine:

(Each fluid ounce of MALTINE WINE contains 15 grains pure PEPSIN and 15 grains pure PANCREATINE.)

We can recommend this preparation to the Medical Profession as being the most important remedy ever brought to their notice in all cases of Dyspepsia and Imperfect Nutrition, when the system needs invigorating and replenishing. It will be found, we believe, a perfect remedy in Vomiting in Pregnancy, Cholera Infantum and wasting diseases of children, and in Constipation and Chronic diarrhoea resulting from mal-nutrition. It will agree with the most irritable stomach.

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With the nutritive, emollient, and demulcent properties of MALTINE and CARRAGEEN, and the expectorant qualities of YERBINE, (active principle of Yerba Santa,) we offer this preparation with the fullest confidence that it is the most perfect remedy yet produced in Chronic Pulmonary Affections, Irritation of the Mucous Membrane, Difficult Expectoration, Bronchitis, and ordinary Coughs and Colds.

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We also manufacture a perfectly prepared EXTRACT OF MALT, from Barley only.

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WYETH'S DIALYSED IRON.

(FERRUM DIALYSATUM.)

A Pure and Neutral Solution of Oxide of Iron in the Colloid Form. The Result of Endosmosis and Diffusion with Distilled Water.

PREPARED SOLELY BY

JOHN WYETH & BRO.,
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This article possesses great advantages over every other ferruginous preparation heretofore introduced, as it is a solution of Iron in as nearly as possible the form in which it exists in the blood. It is a preparation of invariable strength and purity, obtained by a process of dialysation, the Iron being separated from its combinations by endosmosis, according to the law of diffusion of liquids. It has no styptic taste, does not blacken the teeth, disturb the stomach, or constipate the bowels.

It affords, therefore, the very best mode of administering

IRON

In cases where the use of this remedy is indicated.

The advantages claimed for this form of Iron are due to the absence of free acid, which is dependent upon the perfect dialysation of the solution. The samples of German and French Liquor, Ferri Oxidi Dialys., which we have examined, give acid reaction to test paper. If the dialysation is continued sufficiently long, it should be tasteless and neutral.

Our Dialysed Iron is not a saline compound, and is easily distinguished from Salts of Iron, by not giving rise to a blood-red color on the addition of an Alkaline Sulpho-Cyanide, or a blue precipitate with Ferro-Cyanide of Potassium. It does not become cloudy when boiled. When agitated with one part of Alcohol and two parts of Ether (fortior) the Ether layer is not made yellow.

Physicians and Apothecaries will appreciate how important is the fact that, as an antidote for Poisoning by Arsenic, Dialysed Iron is quite as efficient as the Hydrated Sesquioxide (hitherto the best remedy known in such cases) and has the great advantage of being always ready for immediate use. It will now doubtless be found in every drug store, to supply such an emergency.

Full directions accompany each bottle.

Physicians will find our **Dialysed Iron** in all the leading Drug Stores in the United States and Canada.

It is put up in bottles retailing for **One Dollar**, containing sufficient for two months' treatment. Large size is intended for hospitals and dispensing. Retail at \$1.50. Price Lists, etc., sent on application.

JOHN WYETH & BRO.

PEPTONIC PILLS.

Pepsin, Pancreatin, with Lacto-Phosphate of Lime and Lactic Acid.

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This pill will give immediate relief in many forms of Dyspepsia and Indigestion, and will prove of permanent benefit in all cases of enfeebled digestion produced from want or proper secretion of the Gastric Juice. By supplementing the action of the stomach, and rendering the food capable of assimilation, they enable the organ to recover its healthy tone, and thus permanent relief is afforded. One great advantage of the mode of preparation of these pills is the absence of sugar, which is present in all the ordinary Pepsin and Pancreatin compounds—in this form the dose is much smaller, more pleasant to take, and is less apt to offend the already weak and irritable stomach. The results of their use have been so abundantly satisfactory, that we are confident that further trial will secure for them the cordial approval of the Medical Profession and the favor of the general public.

Each pill contains one grain of pure Pepsin, and one of pure Pancreatin, which is equivalent to 10 grains of the ordinary or saccharated usually prescribed and dispensed. Physicians will appreciate the great advantage of this mode of administration, the increased benefit to the Dyspeptic being due to a full and effective dose of each, freed from the unnecessary bulk, and really hurtful addition of sugar. A single pill will give immediate relief.

DIRECTIONS.—Take one pill immediately after eating or when suffering from Indigestion, Lump in the Throat or Flatulence. For children reduce the pill to powder and give a fourth or half, according to age.

JOHN WYETH & BRO., Chemists, Philadelphia.

MENSMAN'S PEPTONIZED BEEF TONIC.



The great necessity for a fluid food that would possess all the elements necessary for the support of the system having long been felt by the Medical Profession, we call attention to this preparation, containing the entire nutritious properties of the muscular fiber, blood, bone and brain of a healthy bullock, dissolved by aid of heat and pepsin, and preserved by spirit; thus constituting a perfect nutritive, reconstructive tonic.

It is not a mere stimulant, like the now fashionable extracts of beef, but contains blood-making, force-generating, and life-sustaining properties, pre-eminently calculated to support the system under the exhausting and wasting process of fevers and other acute diseases, and to rebuild and recruit the tissues and forces, whether lost in the destructive march of such affections, or induced by overwork, general debility, or the more tedious forms of chronic disease. It is friendly and helpful to the most delicate stomach, and where there is a fair remnant to build on, will reconstruct the most shattered and enfeebled constitution. It is entirely free from any drugs. Dispensed in 16 oz. and 12 oz. bottles.

"DR. MENSMAN'S BEEF TONIC"

Is a complete representative of lean and fat beef, bone, blood and muscle. It consists of all the properties which combine in the development of the animal body, which are liquefied by an artificial process, simulating natural digestion, and retaining all of their alimentary values. It contains in its perfection all the natural elements of the meat in their natural quantitative relations, without their extraneous or indigestible properties, and therefore requiring the least possible effort on the part of the stomach for its conversion into chyle, and its immediate absorption by the system.

"This tonic is free from any drugs or chemicals, and is a great invigorator or recuperant. I have used this preparation in several cases of sickness of a character which enables me to give the most favorable opinion of its great value, in extreme sickness. Some of the cases referred to are hemorrhage of the bowels, typhoid fever, bilious fever, inflammation of the bowels, where the greatest possible prostration was present, and in which I found this meat tonic to accomplish results I could not obtain with any other preparation. It is a gentle stimulant, and allays the peculiar irritation of the stomach, which destroys the appetite in all forms of disease, when the tone of the stomach is destroyed."

"We published the above article in the November No. of 1877, and will say that we have prescribed the tonic daily to date with the very best results."—ED. MED. ELECTRIC.

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Iron, Phosphorus and Calisaya.

We call the attention of the Profession to our preparation of the above estimable Tonics, as combined in our elegant and palatable **Ferro-Phosphorated Elixir of Calisaya Bark**, a combination of the Pyrophosphate of Iron and Calisaya never before attained, in which the nauseous inkiness of the Iron and astringency of the Calisaya are overcome, without any injury to their active tonic principles, and blended into a beautiful amber colored Cordial, delicious to the taste and acceptable to the most delicate stomach. This preparation is made directly from the **ROYAL CALISAYA BARK**, not from **ITS ALKALOIDS OR THEIR SALTS**—being unlike other preparations called "Elixir of Calisaya and Iron," which are simply an **Elixir of Quinine and Iron**. Our Elixir can be depended upon as being a true Elixir of Calisaya Bark with Iron. Each teaspoonful contains seven and a half grains Royal Calisaya Bark and two grains Pyrophosphate of Iron.

PURE COD LIVER OIL.

Manufactured on the Sea-Shore from Fresh and Selected Livers.

The universal demand for Cod Liver Oil that can be depended upon as strictly pure and scientifically prepared, having been long felt by the Medical Profession, we were induced to undertake its manufacture at the Fishing Stations where the fish are brought to land every few hours, and the Livers consequently are in great perfection.

This Oil is manufactured by us on the sea-shore, with the greatest care, from fresh, healthy Livers, of the Cod only, without the aid of any chemicals, by the simplest possible process and lowest temperature by which the Oil can be separated from the cells of the Livers. It is nearly devoid of color, odor, and flavor—having a bland fish-like, and to most persons, not unpleasant taste. It is so sweet and pure that it can be retained by the stomach when other kinds fail, and patients soon become fond of it.

The secret of making good Cod Liver Oil lies in the proper application of the proper degree of heat; too much or too little will seriously injure the quality. Great attention to cleanliness is absolutely necessary to produce sweet Cod Liver Oil. The rancid Oil found in the market is the make of manufacturers who are careless about these matters.

Prof. Parker, of New York, says "I have tried almost every other manufacturer's Oil, and give yours the decided preference."

Prof. Hays, State Assayer of Massachusetts, after a full analysis of it, says: "It is the best for foreign or domestic use."

After years of experimenting, the Medical Profession of Europe and America, who have studied the effects of different Cod Liver Oils, have unanimously decided the light straw-colored Cod Liver Oil to be far superior to any of the brown Oils.

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MANUFACTURERS, IMPORTERS, WHOLESALE AND RETAIL DEALERS IN Surgical, Dental, Orthopedic Instruments, Catheters, Trusses, Supporters, Silk Stockings, Ear Trumpets, Splints, Anatomical Preparations, Local Anesthesia Apparatus, Laryngoscopes, Ophthalmoscopes, Hypodermic Syringes, Axilla Thermometers, etc., etc.

Special attention given to the manufacture of Instruments to order, in exact accordance with patterns furnished by Surgeons and Physicians.

CASWELL, HAZARD & CO.,
Family and Manufacturing Chemists, New York.

PHOSPHOROLE.

PHOSPHORUS and COD-LIVER OIL.

have now an established position throughout the civilized world as important therapeutical agents. A *perfect combination* of the two has long been a desideratum, since they are both of value in the same disorders, while the cases in which one is demanded and the other contra-indicated are exceedingly rare.

The combination in PHOSPHOROLE has the twofold advantage of furnishing *the best possible form* for the administration of *phosphorus*, and a *more effective form* for the administration of *cod-liver oil*.

With regard to the former, it has been decided by the highest chemical and medical authorities that *phosphorus* should be administered in a *free state*, and in a vehicle which ensures its *perfect diffusion*, its *absolute unalterability*, and, as far as possible, its *prompt assimilation* without the gastric irritation to which the ordinary methods of exhibiting the agent give rise. It is well known that pills, emulsions, solutions in ether, chloroform, vegetable oils and resin, etc., have all failed to fulfill one or more of these conditions. Even an ordinary solution of phosphorus in cod-liver oil would not answer the purpose in all respects. We claim, however, that PHOSPHOROLE completely satisfies all the conditions. From the method of preparing it, in an atmosphere of dry carbonic acid, the phosphorus is *entirely dissolved without oxidation*, and by our mode of manipulation a *positive uniformity of strength* is ensured. It is then promptly bottled and sealed, and its *stability and permanence* thus secured. The exact amount of phosphorus in each dose is known, its efficiency is ensured, and the irritant effects upon the stomach are reduced to a minimum by the blandness of the oil. As a means then of administering *phosphorus* in the many cases in which it is indicated as a *nervous tonic and stimulant*, it is claimed that PHOSPHOROLE is the best attainable in the present state of our knowledge.

The value of *cod-liver oil* in phthisis is so familiar to the physician that it is needless to dwell upon it. But the value of *phosphorus* is also universally recognized in this disease, especially when complicated with nervous derangements. The *combination* of the two therefore furnishes a more effective form for the administration of cod-liver oil in the great majority of cases in which that remedy is indicated, and one which will at once commend itself to the profession.

A dose of two teaspoonfuls of PHOSPHOROLE contains $\frac{1}{100}$ of a grain of phosphorus. This dose, when given after a meal, is effective, and not very liable to interfere with digestion. *Phosphorus is cumulative in its action, and should be administered with watchful care.* About $\frac{1}{12}$ grain is considered the largest safe dose, and we rarely need go higher than $\frac{1}{20}$ or $\frac{1}{30}$ of a grain. At the very first appearance of the smallest gastric derangement, the exhibition of phosphorus should be stopped.

PHOSPHOROLE is handsomely put up in pint bottles only, and may be obtained at all first-class druggists throughout the United States.

Descriptive Circulars furnished upon application.

Correspondence with Physicians solicited.

BILLINGS, CLAPP & CO.,

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THE
SAINT LOUIS
MEDICAL AND SURGICAL
Journal.

VOL. XXXVII—OCTOBER, 1879—No. 4.

Original Contributions.

ARTICLE X.

SLOW OR FAST EATING—WHICH? By JAS. F. HIBBERD, M. D.
of Richmond, Ind.

Perhaps from time immemorial, surely for many generations of men, the popular professional idea has been that rapid eating was pernicious, and should be avoided by all persons. The objections to rapid eating were not always formulated in the mind of the physician, its prohibition being looked upon by many of them as axiomatic, or as one of those professional maxims to be accepted without question, and urged on the populace, as a rule of action, on all suitable occasions.

When a teacher essayed to assign a reason for the reigning doctrine, one of scientific accuracy was supposed to be found in the assertion that fast eating forbade the proper mastication and insalivation of the food, which, reaching the stomach insufficiently comminuted, the gastric juice could act only on the out-

side of the ingesta as presented, and thus involved an unnecessary measure of time in the solution of the food in the stomach; while, on the other hand, if mastication were thoroughly performed, it necessarily induced a complete mixture of the food with the saliva—which was supposed to be a valuable initial step in the solution of the aliment—and then sent it to the stomach in such comminuted state that the gastric juice could at once penetrate all through it, and by virtue of the extensive surface simultaneously attacked effect its solution in a comparatively brief period, and this rapidity of solution in the gastric fluid seemed to be accounted, *nolens volens*, the desideratum in stomach digestion? Is this true?

Whether true or not, it had such possession of the mind of the physiologist at the time that Dr. Beaumont had the opportunity of investigating the operations of St. Martin's stomach after eating, through a fistula, that his chief aim seems to have been to determine the precise time that each kind of food was held in the stomach while undergoing solution in the gastric juice. These experiments of Dr. Beaumont began in 1825, and the results were laid before the world in detail in 1834, since which time no physiological author has written on digestion without quoting Dr. Beaumont's conclusions, and nearly all such authors according to these conclusions the force and favor of demonstrated truths, declaring that what was most quickly dissolved in the stomach was the most healthy and desirable food. Why should it be?

Professional teaching has converted the world, and there is not now a layman, neophyte or veteran in digestive lore who does not solemnly warn all whom it is his privilege to advise that the fundamental principle in healthy digestion demands eating slowly, and thorough mastication of food. Is he right?

Is there an intelligent physician who has made acute use of his opportunities for observation that can confirm the popular and professional ideas about hasty meals? These questions are propounded to Dr. Blank, and it is desired that every physician who reads this article will consider himself the Dr. Blank now and here addressed: Do you know a healthy man who habitually eats his meals slowly? Do you know an unhealthy man whose habit it is to take his food rapidly? In casting your mental vision over the customs of your patients and intimate friends whose acts of eating you can thus recall and examine, do you not find that all those who are healthy, active and strong,

are rapid eaters? And do you not also find that a large percentage of those who are unhealthy, inactive and feeble, devote much time to the comminution of their food through the ordinary table appliances and mastication? What say you?

Do not rush into a hasty and ill considered reply. Take time; use deliberation; discard preconceived opinions; abandon prejudices, however old and honored; observe cautiously and critically; and answer candidly, and your answer shall have the power and prestige due to the offering of a discreet physician who has reasoned logically from correct premises, and this equally whether it be an affirmation or negation of the problem presented. The truth is our goal!

Many active business men of all classes are quick eaters, and some of them are the victims of indigestion, but it is believed that investigation will reveal the fact that these dyspeptics are such by virtue of a peculiar nervous organization, in no wise due to hasty meals. How is that?

For years it has been a conviction of the writer that the universal idea that fast eating was invariably mischievous, was erroneous, and this conviction had its genesis in common observation. If one keep his eyes open while he chances to be an eater at many private tables; at various *tables d'hote*; at numerous railroad dining halls; at occasional crowded pleasure resorts; at the uncertain tables of long ocean voyages; or at the limited accommodations of the camp mess, he cannot but conclude that fast eating does not break down the health of every one who indulges in it, nor even induces some form of protean dyspepsia. Try and see!

But this impression, originating in observation, has been confirmed by advanced knowledge of the physiology of digestion. One cannot follow the more recent teachings of those who have given acutest attention to the role of the mouth, the stomach and the intestines in the process of digestion without realizing that the opprobrium heaped upon fast eating is not deserved. It is not within the purview of this brief paper to present even an epitome of the prevalent doctrine in regard to the varied service of the several interior cavities of our bodies in the solution of our daily food to fit it for absorption and assimilation; but it may be appropriate to recite a part of some experiments recorded by William Browning, Ph. D. (P. S. M., July, '79), as follows: "If the meat, before being fed to the dog, was re-

duced to hash or cut into fine pieces, the digestion was at best but imperfect, a considerable portion of the undigested or imperfectly digested meat being found in the excreta. If under the same conditions, meat was fed to the dog in large pieces, it was bolted at a gulp, with the result that little, if any, passed through undigested; compared with the result from the chopped meat, it could be called a perfect digestion for the coarse form as compared with a decidedly imperfect digestion for the fine form. So far as simple experiment goes, this must be pretty conclusive for the dog."

Theoretically a like imperfect digestion would obtain in man under similar circumstances. "The rotary movement of the contents of the stomach is to facilitate the action of the gastric juice, to bring the various particles and lumps of the entire mass into contact with it as it exudes from the stomach's walls. If the material has come from the mouth finely ground up, a considerable portion goes over into the duodenum before it has been properly acted upon; but if it has come down in coarse lumps, these begin shortly to dissolve, passing into a more or less fluid condition, and this can be taken care of with about the same rapidity by the digestive apparatus following. By this arrangement no portion of the food would be allowed to pass from the stomach unprepared for the next step in the digestive process. All portions then, even the finest fibers of meat diet, must be acted on by the gastric juice before passing on, and this progresses best by slowly wearing off the outside of the muscles.

Prof. Ludwig has made some general experiments as to the truth of this theory upon himself, eating coarsely cut meat at one time and fine at another, without at least being able to detect any ill effects whatever from morsels as large as it was convenient to swallow.

"To conclude, then, with respect to man, as well as other flesh-eaters: It is not only not necessary, but also not best, to chew meat of any kind to a fine condition, but to swallow it in convenient morsels; this militates against hash."

This quoted testimony is confined to the eating of meat, but the same reasoning will apply to any kind of food that contains proteid matter the stomach digestion should convert into peptones.

There is a lesson of practical value in these conclusions, but it does not consist in every doctor making it a constant duty to

lecture all men on the necessity of bolting their food if they hope to preserve their health ; this would be swinging the pendulum of folly to the other end of its arc. The good of our study is to be found in allowing healthy men to eat, so far as speed is concerned, according to their wont or wish ; permitting them, without threats of dyspeptic penalties, to follow their habit of eating, whether derived from instinct or ratiocination. This will save men from the weariness of a vast amount of unnecessary lecturing, and in the end redound to the credit of physicians, for the present status of affairs is about this : The doctors are constantly urging the necessity of eating slowly, predicting the direst dyspepsia, to say nothing of other ills, as the consequence of the neglect of their injunctions, while the healthy men pay no regard to the doctors' advice, eat according to their bent, and suffer no inconvenience therefrom ; and this is good for the healthy men, but their clients thus prove the doctors to be poor scientists and bad prophets, and accordingly losing a modicum of faith in the doctors' qualifications, and completely wrecking the idea of their infallibility in professional affairs ; and this is bad for the doctors.

ARTICLE XI.

A CASE OF DIABETES MELITURIA—PERSONAL HISTORY OF DR. T. J. MONTGOMERY'S CASE. By J. W. TRADER, M. D., of Sedalia, Mo.

There are many diseases that seem to stand forth as a perpetual reproach to medicine as a science. Our knowledge of their etiology and pathology does not always give us a clue to the remedies calculated to change morbid causes, or to restore the lost equilibrium of the system. Among those diseases there are none more dreaded than diabetes melitus and its kindred disorders. I shall not attempt a scientific treatise upon this subject, but will simply give a personal history of Dr. T. J. Montgomery's case, who fell a victim to this malady. In doing this I shall use principally the notes left by the Doctor himself; hence the frequent repetition of the personal pronoun.

"I noticed last June (1875) an increased flow of urine, the amount gradually increasing. About the middle of November I had the urine examined for sugar, and found 30 grs. to the oz., by the yeast test, as reported by my partner, Dr. Trader; s. g. 1040, acid reaction. Commenced treatment with pills of opium and belladonna twice a day, and one-half to two-thirds teaspoonful elix. iodo-bromide cal. comp. three times a day. Diet same as usual. In eight or ten days urine 1025, but still loaded with sugar, with alkaline reaction. I had suffered considerably with pain in the small of my back, and great thirst; these symptoms somewhat abated. About this time I procured eight gallons of the water of Bethesda Springs, at Waukesha, Wis.; I commenced using it freely, but made no change in diet. After four days we tested urine; s. g. 1025, with plenty of sugar, though not so much; pain in back relieved, and thirst comparatively gone. Saturday morning at breakfast I ate ordinary diet, but from that time on ate nothing containing starch or sugar. On Monday, the 6th December, had urine tested; s. g. 1015—no sugar, not even a trace. From that time on until to-day I have eaten nothing containing starch or sugar, s. g. and quantity passed both diminishing until now; s. g. 1005, acid reaction; quantity passed little more than normal; no sugar.

"Dec. 10th.—Ate at dinner (2 o'clock) yesterday a few small

crackers and three small apples. Urine two hours after dinner, s. g. 1015. Specimen taken this morning of what was passed last night showed s. g. 1018. To-day at 10 o'clock s. g. 1014. Ate two small apples at 11 o'clock A. M.; drank five glasses of water yesterday. Tested again two hours and a half after eating apples to-day; found s. g. 1014. *Ergo*, apples may be eaten. Ate nothing to-day containing sugar or starch, except the apples; they contain a little sugar. Amount of urine passed last twenty-four hours, 43 oz.

"Dec. 11th.—At dinner to-day ate four oz. corn bread, also at breakfast ate five oz. Urine this morning, s. g. 1022; this is urine passed during the night; find plenty of sugar in this urine. Commenced to-day my meat and egg diet at dinner. Amount of urine passed in twenty-four hours, 37 oz.

"Dec. 12th.—Continue meat and egg diet, with milk. Amount of urine discharged, 56 oz.; s. g. 1007; temp., 97° Fah. Did not test for sugar; presume there is none. Ate almonds occasionally; do not see that they make any change in the urine.

"Dec. 13th.—Last night's urine s. g. 1015; that discharged at 10 A. M., s. g. 1014. Ate dinner (at 4 o'clock P. M., nearly), of beef, eggs and milk. Took one-half oz. of brandy and ate one and a-half apples in the evening. Amount of urine in twenty-four hours, 40 oz.

"Dec. 14th.—Last night's urine, s. g. 1020. Query: Is the increased s. g. owing to the apples or brandy taken last night, or to the smaller amount of urine discharged? I think the latter. My weight to-day is 99½ lbs., with my winter clothes on. Last summer my highest weight was 104 lbs., the most I ever weighed in my life, from the age of 25 to 45 years. My health was good, and my standing weight 98 lbs. Temp. at 12 M. to-day, 100°. Amount of urine discharged in last twenty-four hours, 46 oz.

Dec. 15th.—S. g. of urine last night, 1016. Ate one apple last evening and a dozen or two of almonds. Animal heat, 99°. Amount of urine discharged in twenty-four hours, 35 oz. Not tested for acid.

"Dec. 16th.—Amount passed last twenty-four hours, 39 oz.; s. g., 1018, highly acid.

"Dec. 17th.—Amount passed in last twenty-four hours, 34 oz.; s. g. 1016, highly acid; no sugar, Temp. not taken.

"Dec. 18th.—Amount of urine passed last twenty-four hours, 29½ oz.; s. g. 1015; temp. 99°. For the last eight or ten days

have drank at least one quart of the Bethesda water per diem. Have also taken every night, since treatment with the water commenced, a pill containing morphia, 1-7 gr.; belladonna, 1-8 gr.; Dover's powder, 3 grs.; podophyllin, 1-5 gr. I take this pill on account of an old bronchitis, from which I have suffered for years. While it relieves all distress from the throat and bronchia, it does not interfere in any way that I can perceive with the diabetes, except to lessen the amount of urine through the night.

"Dec. 19th.—Urine passed to-day, 44 oz. Did not test it in any way. Ate four apples during the day. Took on evening of the 18th one-half oz. brandy, with water. Think it was that which increased the flow of urine during the next twenty-four hours.

"Dec. 20th.—Urine passed during last twenty-four hours, 36 oz. Tested it for sugar, and found none. Ate four apples yesterday. S. g. 1020. Passed only 10 oz. less last night, of which a specimen was tested. I think the small amount passed was the cause of the increased weight; very acid.

"Dec. 21st.—Passed in last twenty-four hours — oz.; passed only 9 oz. during the night. Forgot to bring any of last night's urine to test, but tested some drawn at 10 o'clock A. M.; s. g. 1015. Have just received a letter from Col. Richard Dunbar, proprietor of the Bethesda Spring, the water of which I am using. He tells me I can go on mixed diet if I will still use plenty of the water. Very good news, as I am getting tired of meat and eggs. But, unfortunately, am out of the water. Have sent for another half barrel, which, as soon as it comes, will commence using, and try a little bread. [Note.—Here was a sad mistake in abandoning the absolute diet.] Will not continue this as a daily history after to-day, but will jot down occasionally if anything worth noting comes up.

"Dec. 24th.—Ate bread and took sugar in coffee from 21st to yesterday (23d) at breakfast. Yesterday tested urine, and found sugar in it; s. g. 1012. Ate no bread or sugar since yesterday. Found no sugar to-day; s. g. 1012.

"Dec. 28th.—My spring water gave out on the 25th inst. Had but one glass that morning—none since. Have eaten nothing containing sugar or starch since, except apples. To-day urine is greatly decreased in quantity, s. g. 1025, and sugar quite plenty.

"Jan. 3d, 1876.—Received a barrel of water from Waukesha

on last Friday evening, 31st Dec., (ult.) Have been drinking it freely since, and living on mixed diet, except potatoes; s. g. of urine to-day, 1010. Tests for sugar showed it rich in sugar, though I feel much better since I have been drinking the water.

"Jan. 11th.—For the last three or four days have been very thirsty, though drinking the water freely. Tested the urine to-day; found abundance of sugar; s. g. 1030. Shall resume fixed diet at once, as I am driven to the conclusion that the water has very little curative effect while living on starchy and saccharine food.

"Feb. 18th.—Since last date I have lived on absolute diet, but the desire for starchy food became so great that I renewed it on the 22d. Have eaten everything I desired, except potatoes and sugary articles. Have for several days past taken a little sugar in my coffee and tea. Have also continued the use of the Bethesda water freely. This water, I am sure, keeps up a good appetite. My strength and weight remain normal, although my urine is s. g. 1030–'35, and loaded with sugar. No need for testing it, as it leaves a syrupy, sticking feeling wherever it falls. By advice of Dr. D. V. Dean, of St. Louis, I commenced, to-day at dinner, the use of lactic acid, 10 m., in a dessertspoonful of glycerine, and half a glass of water, at each meal. Continue to use farinaceous diet, with a little sugar in tea and coffee, and drinking Bethesda water whenever thirsty, instead of ordinary water. I am now passing from 40 to 50 oz. of water every twenty-four hours.

"March 13th.—Up to last Saturday (12th) I continued the above treatment. Urine increased to 60 or 80 oz. per twenty-four hours; sugar abundant. On that day I commenced living on milk, eggs and beef—no starchy or saccharine food. The s. g. on the 12th was 1035; to-day it is 1030. I shall try this treatment for a while—that is, the lactic acid and non-farinaceous and non-saccharine diet.

"March 20th.—Pursued the lactic acid treatment, as above, until to-day; s. g. 1034. Tested for sugar to-day, and found plenty of it. This morning commenced skimmed-milk treatment. Will continue it as long as possible, and note results.

"March 25th.—Discharged in last twenty-four hours 40 oz. To-day I am passing a much larger amount of urine than usual. I continued the skimmed-milk treatment until noon yesterday; the quantity of water was greatly increased—went up one day

to 90 oz. All the water of the milk seems to go through the kidneys; s. g. was sometimes as low as 1012, and the next day up to 1030. My head is troubling me a good deal—severe vertigo—sometimes almost past walking. I was constantly hungry, though drinking from six to eight pints a day¹. Yesterday at noon I felt so badly that I ordered some eggs and beef. Ate them again this morning, and now feel greatly better. Resumed the lactic acid, 20 m., three times a day—that is, 1 dr. per diem.

“April 14th.—Continued the lactic acid for some two weeks, until it disagreed with my stomach so greatly that I was forced to abandon it. Have since taken nothing, but continued the beef and eggs until some five or six days ago, when, finding by experiment that the eggs kept up the s. g. of the urine to 1030, I abandoned the eggs, and am now living alone on meat and milk, taking occasionally lettuce and cabbage. Urine nearly normal in quantity; s. g. from 1010 to 1025, but find on testing plenty of sugar to-day, though I have no thirst and no unpleasant symptoms, and were it not for the sugar in the urine, would feel like I was well. I take every day, at dinner and supper, about an ounce of brandy.”

This closes the systematic record of Dr. Montgomery's case as kept by himself. About the first of June, 1876, as the weather became warmer, he concluded to take rooms for awhile at the Sweet Springs, near Brownsville, Saline county, Mo., and try the virtue of these waters. At the time of going to the Springs he was quite feeble—still continuing the absolute diet of beef and milk, and using no special medication except his brandy and water, and belladonna pill. On the 8th of June, or six weeks after the last entry, I received a letter from him saying: “I have made no tests of the urine since I came here, and shall not until the last of next week, as that will give me time to see whether I can hope for anything. I am feeling first-rate and enjoying myself hugely. The rest of the boarders live like fighting cocks, while I sit in the midst of luxurious abundance and eat my beefsteak and eggs. But I am getting so used to it that the self-denial is becoming less and less every day.”

On June 22d I received another letter from him saying: “I do not think I would be justified in leaving the Springs for a day

1. I will here state that the Doctor was urged to use skimmed milk alone while taking the lactic acid.

while its water is doing me so much good. I analyzed my urine again yesterday and find not a trace of sugar in it." On the 24th I received another letter stating that he would come up last of next week to spend three or four days, taking in the 4th of July.

After his return to Sedalia in July, he was strongly importuned to visit the Bethesda Spring at Waukesha, Wis., with the hope of completing a cure. Accordingly, about the 15th of July he, in company with his wife, started for that place. On the 20th, the second day after his arrival, he wrote me as follows: "We reached here day before yesterday, well, but very tired. The weather is intensely hot; more so, I think, than in Sedalia. The people here say it is an unusual spell. I find the Bethesda Spring a bold and beautiful spring of deliciously cold water, and hundreds of persons drinking it. I have already made the acquaintance of some six or eight diabetics, all of whom say that they are getting better, and some who are fully well. No doubt is felt here, by any one, as to the curability of diabetes and Bright's disease—the latter when not too far gone—by these waters. We are permitted to eat anything we want except potatoes and pastry—"take as much bread as you please"—I tell you I enjoy the bread hugely. I have been eating what bread I pleased since coming here, and to-day went through a thorough examination. My case is pronounced curable, but my liver is pronounced considerably diseased, but that also is said to be easily cured by the water."

August 1st he wrote:—"I find no special improvement in my case, but find no increase of sugar or other symptoms while eating as much bread as I want. My strength has greatly increased, so that on the whole I regard myself as improving."

August 5th:—"I am getting along only tolerably at present. Haven't felt so well for several days. Don't know what is the cause. I suffer just like in all other cases; patients will sometimes advance backward in spite of physic, then rally and go all right."

August 15th:—"My urine to-day stands at 1035 s. g. with plenty of sugar in it. To be sure I am eating all the bread I wish, and but for this would soon go down. It keeps me up, and I feel much better as the bread keeps me nourished. This water proposes to cure and let you eat all the bread you want. But so far it has not succeeded in my case."

He returned home about the first of September very much prostrated and with all the symptoms aggravated. He was urged to return to the absolute diet at once, and at the same time use freely of the Bethesda water. He procured some diabetic flour and that, together with the meat diet, seemed to improve his health very much. But the urine did not seem disposed to return to a normal standard, although at times very much improved. Cramping of muscles of the legs, not only gave a great deal of pain, but materially interfered with walking, so that a crutch had to be used part of the time. The winter of '76 and '77 was spent in Sedalia with no permanent improvement, but rather a gradual letting down of the powers of life. Early in the spring of 1878 he concluded to again try the Sweet Springs water at Brownsville. In the meantime he had heard glowing accounts of a famous spring in Ohio.

April 19th he writes from Brownsville: "This cool wet weather is rather trying on me, and, if it does not hold up shortly, will drive me home. I still desire to go to Ohio last of next or first of week after next. I believe now I can stand the trip by making day rides and stopping over nights. I am drinking very little of the water, it is too cool (the weather) to drink it freely; still I think may be I am gaining some." On the last of April he started for Green Springs, Ohio.

On May 3d he writes: "We reached here Tuesday at 2 o'clock P. M., only twenty-nine hours from time of leaving Sedalia (six hundred and fifty miles) without seeming fatigue; but that night felt that I should certainly die from extreme exhaustion—felt that death would be welcome to relieve from the suffering of extreme debility. Slept all day yesterday and last night, and had a grand sleep to-day. Have had two good meals and now feel better than I have for two weeks."

Nothing more was heard from him until his arrival, somewhat unexpected, in Sedalia on Wednesday, May 9th, greatly exhausted. From this time on to the day of his death, May 7th, he was confined to his room.

It is barely possible that, had the absolute diet been strictly adhered to, and kept up for the first year, different results would have been obtained. At all events, from the way improvement followed the use of this diet, aided by the natural spring waters, life might have been prolonged for some years. But it did not seem possible to deny the appetite some starchy food.

My opinion is that, had we never permitted the use of starchy food, and, as experience suggested, adhered to the absolute diet, the diabetes would have yielded, and a measurable degree of health secured. I have very little faith in specific medication in diabetes melitus, or in any diet that does not exclude starchy substances. In this case we no doubt had hepatic trouble, and probably in all cases of this disease there is this complication, but to consider this the primary lesion I believe to be an error. The first appearance of this attack was in the midst of excellent health, without any apparent organic lesion. The Doctor had just passed through a week of excessive mental toil as one of the examiners of the Medical Department of the State University. For some time after his return we thought that, quite likely, the increased flow of urine was caused by this overwork and was simply insipid diabetes. Throughout all this disability he attended to professional duty, when at home, until the last six months of his life. His mind and energies had been so active that now, although over sixty-three years of age, he could not think of quitting the field of labor for any repose his friends might suggest. He could only cease to work when he had ceased to live.

Personally, I feel that I should say something in regard to the character of the individual whose case has been detailed, somewhat lengthily. I made the acquaintance of Dr. Montgomery in the fall of 1862, and from that time I was more or less associated with him, officially and otherwise while he lived. I have known but few men that equaled him in all the amenities of life, and none who excelled him. He was the uniform Christian gentleman and friend. And when life's shadows had lengthened out and the close of his day was proclaimed, like the Athenian philosopher, who only awaited the return of Theoris from her sacred journey to Delos, he drank of the fatal cup in the midst of his weeping friends with composure and but little regret; so our Christian philosopher, having finished his course, was ready to be offered up.

ARTICLE XII.

ADDRESS ON INSANITY.* By C. H. HUGHES, M. D., of St. Louis.

THE PHYSICIAN AS A PSYCHOLOGICAL EXPERT IN COURT.

It being conceded, then, that insanity is a disease, the question first of all to be determined by the physician summoned in a medico-legal inquiry to pass upon the sanity or insanity of a person arraigned before a court, is as to the existence of disease impairing the mind.

The presence or absence of singularities of conduct, of the knowledge of right and wrong, or even of hallucinations, illusions or delusions, are subsidiary to the question of *disease impairing the mind*, though upon these are we sometimes alone or mainly compelled to predicate an opinion, so meagre do we occasionally find the pathological data to be.

Metaphysical conceptions of what ought to constitute a sound mind in persons generally, and as one himself would act under given circumstances, and supposing another insane if he acts differently, mislead the judgment and are liable to get the physician into one of those cunningly devised logical traps that lawyers are so clever at constructing, to the chagrin and discomfort of unwary and inexperienced men of medicine. A purely metaphysical conception of mental disease is difficult to frame and hard to maintain. A sharp lawyer wants no better victim on the witness stand than an expert so incautious as to attempt such a definition.

If by searching diligently we can find out disease sufficient to account for what appears *prima facie* to be irrational conduct in a person, we should stick to that as the mariner to chart and compass. In battling for disease the medical man ought to be invulnerable. He might fail as a pure psychologist, in crossing swords with a scion of the law.

If erratic conduct and most singular speech be not traceable

* Delivered by invitation before the Southern Illinois Medical Association, at Sparta, Ill., on the evening of June 20th, 1879.

to disease involving the mind, a patient and laborious search may reveal a rational though sometimes base and unexpected motive, to account for them. Before the courts, then, when the existence or non-existence of mental aberration is to be determined, disease is the physician's fort, from which, if he be well informed in symptomatology and morbid processes, he cannot easily be driven.

If, in a person concerning whom the question of insanity has been raised, the physician, on careful examination, finds accompanying or ante dating the outbreak of questionable conduct or even immediately preceding it, any considerable degree of disease implicating the organ of the mind, to say nothing of those graver forms of cerebral disorder, such as softening, epilepsy or apoplexy, accompanied with a family history of ancestral insanity or other serious disease of the brain and nervous system, he will generally find little difficulty in arriving at a satisfactory explanation of erratic speech and actions, that are otherwise inexplicable.

But before he concludes that singular, immoral, or unlawful or apparently unjust actions, are the result of disease, he must be sure that they are not otherwise explainable for what may appear to be the most irrational conduct, while the real motives are hidden from view, may, in reality, when all the influences leading to it are fully revealed, be the most rational and absolutely inexplicable upon any other hypothesis than that of entire mental soundness, as was not long ago aptly illustrated in the case of that prison-hardened outlaw, Frank Rande, the American brigand, the Knox county desperado, the "daring and brilliant young bandit of the Wabash," as he styled himself, who is now serving out at Joliet a life sentence for murder. Rande's life had been one from early manhood mainly of reckless adventure and outlawry and he did many things which persons settled down in life and more regardful of its proprieties and the restraints of society and law would not have done, but he was not insane. His course in life was not the result of disease, but of the corrupting influences of evil communications. He was seldom ever physically indisposed in any way and never lost sleep, except when voluntarily depriving himself of it to plot evil.

In this connection it is interesting to note in your State the gradual invasion into judicial territory of the true idea of

insanity. The prosecution in this trial cited the case of *Hopps vs. the People*, 31 Ill., p. 390, in which Chief Justice Breese says: "It is now generally conceded that insanity is a disease of the brain, of that mass of matter through and by which that mysterious power, the mind, acts. There the mind is supposed to be enthroned," etc.

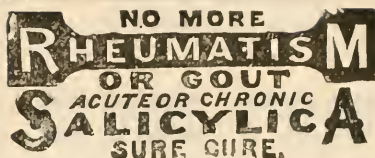
With this decision to guide him, and the accordant testimony of the medical experts, Mr. J. J. Tunnicliffe, the able States Attorney, made a most clear and convincing analysis of all the facts and a powerful plea. He concluded that Rande was sane because his change of character was due to adequate external cause, and not disease, "the chief cause of an insane man's action being the disease of the brain."¹

Thus far our subject seems plain enough, insanity being undoubtedly a disease of the brain, as *post mortem* examinations have always established, where the search for the cerebral lesion has been made with microscopical precision and the eye of a skilled pathologist, and as the physical symptoms during life most frequently reveal.

But there are cases of this disorder, more especially in its chronic form, where our diagnosis must be made mainly, sometimes exclusively, on the psychic symptoms alone. These are the cases which will most perplex and confound the general practitioner, as they may even stagger the best psychological expert, tax to the utmost his ingenuity, call into requisition all the resources he has gained from extensive observation, and cause him to wish he had more. It is one of the mysteries of insanity, that while it is really one of the most serious afflictions of the brain, it sometimes reveals to us the very slightest and with difficulty detected cerebral symptoms, while apparently the gravest forms of disease of the brain do not always and of necessity cause disorder of the mind to such a degree as to constitute insanity.

The physical tumult which ushers in and accompanies the earlier stage of insanity sometimes subsides, leaving only a cerebro-mental scar behind, discernible by no physical sign. The interrogation of the mental workings alone must here be relied on to reveal the existence of disorder in the delicate physical machinery of the mind, in the many-shaped and numberless cells of

1. State of Illinois, Knox County, February term, 1878; *People vs. Frank Rande*; indictment for murder.



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the cerebral cortex, or in the vessels and meninges or cavities of the brain.

There are cases the existence of whose insanity is only a suspicion, or a possibility or probability, based not so much on any marked physical disease perceptibly involving the brain, as in singular conduct and opinions and indubitable hereditary taint, like that of Passanante, who lately attempted the life of the King of Italy. Though a commission of medical inquiry in his own country found no evidence of insanity in him, he was of a nerve degenerate family, three of his brothers and two of his sisters in a family of seven having been insane, and an eminent alienist of great skill and large experience in practical psychiatry¹ entertained no doubt of Passanante being in a state of incubative insanity.

A man of Utopian ideas and one-sided mental culture, rapidity of perception and judgment, uncommon activity of ideas, and expressing them in a manner superior to his station (for he was a cook by trade), keen in attention, rapidly passing from one subject to another, imaginative and profoundly convinced of his own ideas, and ready to bear witness to them with his life, ready, easy and quick of speech, heedless of self and self concerns, of a mild, smiling and sharp physiognomy, sanctifying the love of parents and friends, precocious and fervent in his religious feeling, inveighing against vices and abuses, excusing his crime by saying he wanted to avenge his people, and that ideas ought to be baptized in blood, unmindful of death but tenacious of his principles and scorning to be called a lunatic, as the commission describe him, the manner of action of this common Italian cook whose brothers and sisters all but one have been insane, certainly excites the reasonable suspicion of incubative insanity.

It often happens that a startling crime or astounding folly entirely out of harmony with the individual's known character, for the first time excites suspicion of his mental soundness or by its very flagrant and otherwise inexplicable nature in the person perpetrating it, attests the presence of disease, involving the brain.

Such a case was that of Mr. J. H. Murphy, the St. Louis Mutual Life Insurance clerk who, in the prime of life and with

1. Dr. Joseph Workman, of Canada, former Superintendent of the Toronto Asylum, in *St. Louis Med. and Surg. Jour.*, May, 1879.

none depending upon him for a support, and possessing a library of near two thousand volumes of the choicest standard works of literature, philosophy, history and art, which had been the constant companion of his leisure hours, took his life in the most deliberate and horrible manner because he feared he might lose his situation.

The change in his manner attracted the attention of his friends, a short time before the tragedy, but I saw him only a few weeks before his death and he then expressed himself as feeling well, as he really appeared. The real proof of his mental aberration was not in an appreciable physical lesion of the brain, but in his history of prior insanity. He was, years ago, a patient of mine at Fulton. He had then attempted his life by jumping into the Missouri river. He finally succeeded in destroying it by cutting his throat.

In this connection a most enticing field in practical psychiatry into which, for want of time, I dare not enter to-night, is the value of certain psychic symptoms, such as hallucination, illusion and delusion in the determination of certain morbid states and the prognostic significance of some forms of delusion.

Delusions are often of especial significance. An instance of but little appreciable physical disease, coexisting with really grave mental disturbance, was lately presented in the case of Mark Gray, the stage struck youth who shot at Edwin Booth in McVicker's Theater, and I have now under treatment, at my home in St. Louis, a young man from a remote part of Missouri, undoubtedly insane, who presents no physical evidence of disease, save insomnia, that any one might not have and be perfectly rational. Both of these gentlemen however have delusions.

The extravagances of the insane mind sometimes astonish us, fortunately, however, not often, without appreciable physical disease to account for them.

The vagaries of the rational mind do likewise sometimes surprise us as we see them recorded in the history of the human race and in the fanatical conduct and follies of individuals, as well as States and communities, not to be extenuated or covered by the charitable mantle of cerebral disease. We see this aptly illustrated in the late Pocasset tragedy, where a devoted father, apparently without cerebro-mental disease, without anger, but in obedience to the impulse of a long matured and blind fanaticism

plunged the cruel blade into the heart of his child, fanatically or morbidly firm in the faith that the same invisible hand that stayed the uplifted arm of Abraham of old and arrested the death of his son, would likewise stay his hand ere the fatal knife, in its descent, might reach the heart of his child, and whose faith in the power and disposition of God to restore the child's life persisted after its little trusting heart had ceased to beat, and the earth had hidden from view forever the lifeless handiwork of Freeman's folly.

Instances of faith as strong as that of Freeman and his wife, where an unshakable belief in the omnipotence of implicit, unquestioning faith to bring about whatever is undoubtingly asked, are not only historically numerous, but they are of every day observation, though such tragic culminations as that at Pocasset are not common.

Was Freeman insane? Was his wife, consenting to the bloody, unnatural deed, insane? Were the twenty Second Adventists at Pocasset, who justified and kept secret this horror, deluded by reason of disease involving the seat of mentality, or by a blind fanaticism? Is the Hindoo mother who casts her child to the crocodiles of the Ganges insane? Was Abraham mentally deranged? How cautious must be our answer.

Abraham, we are told in sacred story, was not deceived. He trusted not in vain; but in these latter days, an egotism akin to madness, sometimes supplements the faith of old.

There are many victims of misplaced and unwarranted confidence in God, by reason of misunderstanding of themselves and misinterpretation of "the Word," and yet they are not all insane, though the explanation of many singularities of scriptural misinterpretation and eccentricities of religious conduct and belief, as well as strange actions and expressions on other than Bible subjects, is very often to be found in the existence of insidious disease of the brain.

Cases like that of the Pocasset horror will not unfrequently arise to stagger the law's criterion of responsibility, viz., a knowledge of right and wrong, and to confound our definitions of insanity. The mind may be deluded and still not be insane, and there are other conditions than insanity that should mitigate and extenuate crime. There are other questions that engage the thoughtful attention of the psychologist than the criminal and the insane neurosis.

All crime is not disease, Dr. Maudsley to the contrary notwithstanding. A patient of mine once, with but little previous warning to her friends of impending mental overthrow, cut the throats of her two bright and really promising children, under the morbid impression that they were destined to grow up idiotic. Previous loss of sleep and over watchfulness had caused her brain to give way, as Freeman's may have done. In time the cloud passed from her mind, and she recovered to lament and to discern that disease and not her natural self had done the awful deed. This case, placed in juxtaposition to that of Freeman, admonishes us that we must often discuss questions in psychiatry with great caution, and decide them with thoughtful hesitation and prudence.

THE DISTINCTION BETWEEN INSANITY, IDIOCY, IMBECILITY, ECCENTRICITY AND GENIUS.

Insanity defined upon the basis of disease is thus distinct from idiocy and imbecility, by the fact of comparison of the individual in the two latter conditions with himself, revealing no change in mental manifestation dependent upon disease, and no disharmony with his natural self and surroundings in consequence thereof. What the idiot and imbecile are now they have always been, namely, mentally deficient. The eccentric person likewise, though differing from other men in general, has not changed when compared with himself, and so also those "great wits to madmen near allied"—those children of genius renowned for doing things so unlike and beyond the rest of mankind. It is natural for them to soar above the common flock and be singular.

If any other standard than self-comparison were adopted it would not be difficult to make most men out insane, for individuals differ as much from each other as nations do. Indeed, a great English philosopher, observing that there is something odd in most men, called them mad.¹ He had not a true conception of insanity as we have attempted to portray it, based on change of character dependent on disease.

Some writers on the jurisprudence of insanity have *included* idiocy and imbecility in their classification of insanity, while others have drawn a line of demarkation between the congenital deficiency of idiocy, the arrested development of imbecility, and

1. John Locke.

the *disease* insanity. Blandford considers imbeciles and idiots of unsound mind, but "not insane in the ordinary sense of the word." Maudsley, I think, does not discuss the subject, and Esquirol draws the distinction we have given, based upon the difference between cerebral *disease* and congenital brain *deficiency*.

The distinction between idiots and imbeciles is mainly recognizable in the inability of the former and capacity of the latter to converse more or less intelligibly, and in his generally less deformed or contracted crania, while he is distinguished from others of his age by displaying less than average intelligence and far less moral sense.

Hoffbauer makes five degrees of imbecility and three of stupidity, the highest degree of imbecility being not far below the average human intelligence. The subject is ably discussed in Ray's masterpiece on the Jurisprudence of Insanity, and we have not time to give it much attention here. No cases, however, are more puzzling to courts and juries and physicians and guardians than these; none require closer study.

Important questions of personal liberty and rights, of testamentary capacity and responsibility to law, arise in connection with imbecility. Imbeciles of a certain degree ought not to be permitted to marry, to make a contract or a will, or to be held responsible for a crime.

Hoffbauer made the grave mistake, as Dr. Ray has pointed out,¹ of omitting the state of the moral faculties in his description of the various grades of imbecility, for no fact is better attested by observation than that many imbeciles are glaringly deficient in moral sense, while in a very large number the moral deficiency exceeds the intellectual.

An interesting case illustrative of the importance of an understanding of the subject, may be found in the case of the State of Missouri vs. Benj. F. Cronenbold, for murder in the first degree, in 1874, which came under my personal observation. (Reported at length in the April, 1875, No. of the *Amer. Jour. of Insanity*.) In that case the court showed an exceptional appreciation of the value of medical testimony, referring the question of the prisoner's mental status to a commission of five physicians—a *commissio de lunatico inquirendo*—as it is legally called.

1. Jurisp., Insane, p. 130.

I made the young man eighteen lengthy visits, conversing with and observing him the best I could, and have seen no case in all my experience exacting more reflection in order to reach a conclusion satisfactory to myself than this, except, possibly, a recent one involving the question of aphasia or aphasic insanity, a reprint of which, from the *American Journal of Insanity* for January, I lay before you. Cronenbold is now in the State Asylum at Fulton, Mo., the proper life abode for all such persons. His case never came to trial.

In this case the majesty of the law, for which our legal friends are always so clamorous, when on the side of the prosecution, has been vindicated. Even handed justice, balancing in her scales the weak mind against the letter of the law, sees them equipoised and is satisfied, society is secure from an unsafe member, and mercy drops a tear over the page, which, but for the restraining hand of science, had now become the bloody record of legal vengeance upon a victim innocent, because maimed in mind and irresponsible. Procedures like that in the case of Cronenbold, I fear are not likely to be made precedents, for the imbecile receives but little commiseration in criminal courts. Weakness of mind is not recognized by the strong minded who wear the robes of law or by the public in general as much of an excuse for crime.

Respecting the imbecile truer words than these were never spoken. They were uttered by that Corypheus in forensic psychiatry, whom the profession delights to honor and to whom I have before referred — Dr. Isaac Ray, in his *Medical Jurisprudence of Insanity*: “While the public feeling has become too refined to tolerate the infliction of blows and stripes on the imbecile and the mad in institutions where they are confined, and is inclined to discountenance altogether the idea of punishment as applied to the insane, it can still be gratified by gazing on the dying agonies of a being unable to comprehend between his crime and the penalties attached to it, and utterly insensible to the nature of his awful situation. The voice of reason and humanity which speaks successfully in the first instance, is, in the last, drowned by the more imperious tones of prejudice and passion.”

ARTICLE XIII.

COMPARATIVE PATHOLOGY OF CHOLERA, YELLOW FEVER AND MALIGNANT FEVER, OR PERNICIOUS MALARIAL FEVER. By JOHN J. CALDWELL, M. D., of Baltimore, Md.

Dr. Stillé, in his late learned lecture on epidemic or malignant cholera, says the only diseases which malignant cholera resembles, are the sporadic form of cholera, serious diarrhœa and poisoning by certain irritant substances, and illustrates its anatomical pathology by referring first to the blood. As a general rule the arteries are nearly empty; they sometimes, however, contain a small quantity of black and viscid blood. The veins and the right side of the heart are filled with the dark blood, which is, in general, very imperfectly coagulated, and often fluid. Even when clots are formed they are for the most part soft and resemble blackberry jelly. The veins of the brain are usually gorged with liquid and black blood, and the same is true of the veins of the small intestines; the red globules themselves undergo important changes, they have lost their watery constituents and become shriveled and irregular in shape, and may even be completely disintegrated.

Niemeyer, in his article on cholera Asiatica, makes the same statement. The leading authors of the present day hold the the same views. On opening the abdominal cavity, the peritoneal coat of the intestine presents a pink or rose tint; sometimes the color is very dark, the venous trunk being full of pitchy blood; the contents of the intestinal canal vary somewhat in its different portions.

The mucous membranes of the stomach seldom present any organic changes. In the large intestine are found the same changes of color and consistence of the mucous and sub-mucous membranes, as at the upper portion of the intestinal canal, but with less frequency. Neither the spleen nor liver present any special alteration. The gall bladder is generally distended with glairy bile. The kidneys are often congested and the calices contain a large quantity of epithelial scales, which give the urine a turbid appearance in the bladder.

That its primary cause is material and acts upon the gastro-intestinal mucous membrane and upon the organic nervous system, we cannot doubt. Unlike other epidemics, such as yellow fever, malignant malarial fever and typhus, we find no alteration of the blood that will throw light upon the succession of symptoms. These, on the contrary, point to the gastro-intestinal canal as the material starting point of the morbid processes which develop cholera. Niemeyer says almost the same in the following words: "The comparison of the intestine in cholera to a portion of the skin from which the epidermis has been removed by boiling water or blister is very correct." Watson says: "The alimentary canal was found to contain a white liquid, such as had previously issued from the bowels. The veins were loaded with thick, black blood, and the bladder was found empty and contracted."

WHAT IS THE REMOTE CAUSE OF CHOLERA?—Stillé says: "Evidently something received from without and swallowed." One opinion is that it consists of certain microscopic fungi, or their germs, which, on being received into the bowels, propagate their kind and destroy the epithelium. It is believed by some that the fungus takes its rise on the banks of the Ganges, and that it is produced upon the rice plant; this we will endeavor to demonstrate by analogy with the history of other fungi, and show in this instance what the learned author says, that here these fungi demonstrate themselves especially upon the gastro-intestinal canal, the material starting point of Asiatic cholera, thus causing the profuse flow of serous and watery portions of the blood into the bowels, the vomiting, the purging, the prostration, and the waste in a few hours of the fullest, finest form; the chills and pallor of the extremities and trunk, so thickening the blood as to arrest its passage and spread its cyanotic shadow over the whole surface of the body, thus paralyzing the heart and the organic nervous system, kidneys and other secreting organs of the body. Thus this chain of pathology is the cause of death, so graphically described by this author.

Now, to demonstrate this parasitic theory, we will endeavor to show that they seem to have the power of electing different membranes or organs as their point of attack; for instance, in cerebro-spinal meningitis we find the arachnoid sadly implicated, in malignant malarial fever we find the following demonstra-

tions, so ably exhibited by Professor Joseph Jones, of New Orleans.

Skin jaundiced, but much less than in yellow fever; head blood-vessels congested; heart normal; lungs congested, but otherwise normal; stomach contracted, containing a small quantity of mucus colored by bile; intestines normal in appearance; liver upon the exterior, slate colored, when cut, bronze within; the blood issuing from the cut liver remained of a dark, purplish hue, and did not change to a brilliant scarlet, as in yellow fever.

Gall bladder: the bile is more abundant in malarial fever, and of a deeper color than in yellow fever; spleen enlarged and softened, it resembles a bag filled with mud; kidneys normal; bladder distended, with reddish-brown urine, of acid reaction; here we find the lesion in the spleen and gall bladder, principally, the spleen being utterly disorganized, and the gall bladder containing more than 1000 grs. of bile, having a high specific gravity, viz., 1036. Under the microscope the granular concretions in the bile were found to be composed chiefly of epithelial cells from the mucous membrane of the gall bladder, cells from the biliary ducts, and casts of the biliary tubes; under the microscope the splenic mud proved to be a mass of pigmentary matter.

How different in yellow fever. Here the form is full and bloated; skin golden yellow; black vomit running from the corners of the mouth; putrefactive changes rapid; heart, pericardium greatly congested, pale yellow, and as if undergoing fatty degeneration; numerous oil globules deposited within the muscular fibrilla of the heart; the blood contains urea, bile and carbonate of ammonia in abnormal quantity. When a drop of blood is allowed to fall upon a piece of white paper the center remains bright red, while its edge is of a bright golden color. Urea and bile are found in all the secreting organs of the body, the fibrin of the blood almost entirely destroyed, the bile having the effect of dissolving the colored corpuscles.

Stomach: mucous membrane congested, soft and eroded, and strongly alkaline, containing large quantities of dark grumous blood, or black vomit, also strongly alkaline; chemical analysis also revealed ammonia and urea; under the microscope this black vomit was found to consist of blood corpuscles, broken capillaries and cells of the mucous membrane of the stomach.

Intestines dark color and distended with gas; liver yellow,

resembling fatty degeneration; under the microscope its texture is found infiltrated with oil. Its cells were large and swollen and filled with a golden colored oil. Chemical analysis revealed fat in abnormal quantities, also urea, animal starch and grape sugar.

The liver of yellow fever, as far as observation extends, according to Stillé, Wood, Lewis and many others, is of a bright golden color, which could be extracted by both water and alcohol.

The yellow fever liver is firmer and harder than malarial liver and contains much less blood; much less readily acted upon by alkalies and acids.

Rogers says the distinguishing characteristic of cholera is the reversal of the action of the mucous surfaces of the stomach and intestines. The normal action of those surfaces is to take up the fluid contents of those organs and convey the same on their way to the systemic circulating current in the blood vessels. In this disease this normal process (termed endosmosis) gives place to a reverse current in which the watery element of the blood passes with greater or less rapidity into those cavities. This element constitutes the so-called rice-water evacuations.

These transudations into the stomach and intestinal canal in their profuseness and painlessness, can by no possibility occur, except that the nerves, whose office it is to preside over the parts implicated, fail to perform their functions in a normal manner. No fluid, however attenuated, can make its way through the walls of the blood vessels while the latter preserve their integrity. Thus the unlocking of the exhalent orifices of the blood vessels, permitting the rapid filtration into the stomach and intestinal canal of the finer elements of the blood, and sometimes of the blood itself, is a positive evidence of perturbation in the action of the nerves which supply the vessels and membranes through which the infiltration takes place.

The cramps arise from purely nervous causes; the vomiting is simply regurgitative; collapse may occur from the initial force of the disease, although most frequently due to the diminished volume of the vital current. In rapidly fatal cases the disease expends itself wholly upon the brain and nervous system, and death occurs before other organic changes can have taken place. After death no constant and uniform changes are found in the fluids or tissues of the body which can be regarded as the cause, or the products of the disease.

We may, therefore, consistently ignore all previous theories, and discard all forms of treatment which have been so fruitless in results, and seek some other philosophy which shall better account for the conditions observed, and some other treatment which may prove more successful.

In viewing this disease from a neurological standpoint, the treatment emerges from the empiricism which has ever characterized it and becomes thoroughly scientific. It also becomes the perfection of simplicity.

In the treatment of this disease there are two great and leading indications to be observed. First, to change the perturbed condition of the nervous system, and thus shut down the flood-gates through which the life ebbs away, and second, to ward off the effects of the exhaustive drain upon the vital current. The first may be accomplished by the hypodermic injections of morphia, and the second by position.

It cannot be too firmly impressed upon the professional mind that the rapid diminution of the volume of the blood, through exudation, is attended by the same results which follow a true active hemorrhage. From the commencement of this disease this exudation is in progress in a manifest or a concealed form, and with greater or less rapidity, and demands the precautions and treatment due to active hemorrhage.

In the hypodermic form of medication there is certainty of retention of the remedies employed and promptness and efficiency in their action, a very marked contrast with all other forms of treatment which have ever been employed. The commendation of this method by those who have employed it, is expressed in the strongest terms. The reports of cases thus treated in Asia, Europe, Australia and in various portions of our own country, show almost uniformly favorable results.

The following treatment was employed with successful results in my latest cases—twelve in number—the most of which were grave and typical :

1st. The hypodermic use of morphia, administered according to the age and condition of the patient, usually in quantity of one-eighth to one-quarter of a grain, and frequently repeated.

2d. The horizontal position, or with the head lower than the body.

3d. For the mouth, nothing but ice, and that *ad libitum*.

When this cannot be obtained, the coldest water may be given, and frequently repeated, in small quantities.

4th. External heat, frictions, etc.

The following case, as illustrating the above treatment, may be deemed apropos: Mr. T—— was seized at midnight, and at early morning was found to be on the verge of collapse. In his condition of almost complete exhaustion, with pulse almost imperceptible, the use of morphia was contra-indicated. The first duty, therefore, was to stimulate the brain and heart to action by sending to those organs a current of blood by gravitation. The head was quickly placed many inches lower than the body and extremities, and the other measures resorted to. At the end of one hour the pulse had perceptibly improved, and a quarter of a grain of morphia was hypodermically administered. The inclined position was continued several hours. The result was favorable.

The same treatment applied to cholera morbus is also prompt and favorable in its results.

Dr. Blair (*Yellow Fever Epidemic of British Guiana*) considers that the most valuable premonitory symptoms of yellow fever are supra-orbital pain and a punctated tongue; the first especially giving notice of an impending attack several days before it occurs.

The alternation of chillings and heat is seldom of any duration. It soon gives way to confirmed fever, which, though continued, is more intense in the latter part of the day and during the night than during the other portion of the twenty-four hours. In the more malignant forms of the disease there may occur but a slight reaction, or it may be entirely wanting; the pulse being feeble, soft, occasionally full, or scarcely to be felt—the patient sinking at once into a state of collapse, or of stupor, coma and convulsions.

When febrile reaction becomes fully developed the pulse is generally quick and tense, and during the exacerbation full and strong, though occasionally soft, and from 90 to 120 in a minute. In very malignant cases it is gaseous. There is a violent throbbing and beating of the temporal arteries and carotids.

A specific capillary irritation that shows itself in the flush of the face, and which he pronounces to be as characteristic of yellow fever, as the hectic is of phthisis, or the fuliginous complexion of typhus. "Thus, suffusion," he remarks, "generally occu-

pies a zone over the eyes and about an inch above and below them. The eyes are injected, like those of a person just awake, but generally without any lachrymation or photophobia, although the injection may be as intense as in ophthalmia.

On the first or second day of the attack, sooner or later, the patient experiences a burning pain or a sense of stricture, weight, distension or oppression, sometimes overwhelming, at the præcordia, which feels as if tightly bound with a cord. Tenderness or pain is experienced on pressure in most cases—it is often excessive. The irritability of the stomach augments and proves distressing; everything swallowed is rejected, and even when the stomach is undisturbed by drink or medicine, its morbid contents are thrown off spontaneously, consisting either of substances that have been swallowed, mixed with clear, glairy mucus, or with matter of a sea-green color and bitter taste. In mild cases bilious vomiting sometimes occurs. The act of vomiting is often violent, and attended with retching and much distress and suffering. There is, at the same time, considerable, though not often insatiable, thirst. The desire for cold drinks is nevertheless generally extreme.

The urine is commonly deficient in quantity, and of a dark red color; often depositing a copious sediment. It is always acid in the first stage of yellow fever, and as continuing so, generally until convalescence, when it becomes alkaline, or until it becomes heavily charged with bile. He confirms the accuracy of Dr. Colling's observations in regard to albuminosity of urine as a characteristic of the disease. The albumen generally appears on the second or third day; it has been found as early as the first day of illness, while, in a few cases, it did not appear till the day of death, and after black vomit had set in.

A copious discharge of transparent urine, though ever so coagulable and intensely tinged with bile, is always a favorable symptom. Scanty, oily-looking urine may almost invariably be received as a fatal indication.

The bowels are ordinarily costive, sometimes obstinately so. When stools are obtained, the discharges are at first usually soft and feculent, seldom tinged with bile; occasionally they are of a drab color. When cathartics have not been given, the stools, in the course of the disease, become lighter colored and often assume a starchy, cream-like or puruloid appearance. In a few cases they are watery or even bloody from the beginning of the attack.

The patient is affected with extreme restlessness and jactitation; he moans, sighs and shifts his position continually in search of ease. In the very few cases in which jactitation is absent the patient sometimes feels a disposition to rise from his bed and walk about the room, his muscular strength remaining unimpaired to a degree unusual in febrile diseases. There is nevertheless in numerous instances, from the onset of the disease and during its entire course, universal debility.

In very many cases the patient complains of feeling as though he were unable to expand his chest or inflate his lungs; spasmodic pains about the chest are not unfrequent; respiration, in some cases, is laborious and hurried—in others, slow and accompanied with deep and heavy sighing—in others, again, it is unaffected.

From the above observations it is shown that the breath of yellow fever patients, especially in cases in which the urine is greatly diminished or suppressed, has an ammoniacal odor—the more intense in proportion to the deficiency of the action of the kidneys.

Dr. Blair describes four distinct causes of death in yellow fever. They may, however, be blended occasionally in the same case. They are syncope, uræmia, apoplexy and asphyxia. Death from syncope may be owing to excessive discharges of black vomit, or from hemorrhage, as profuse epistaxis or bleeding from the mouth and gums, or from the black vomit and hemorrhage combined. If before death there is entire suppression of urine, and the black vomit is not copious or has ceased, the circulation becomes contaminated, and in its mildest form the action of the impure blood upon the brain produces an effect not unlike alcoholic inebriation. Patients, a few hours preceding death, have been known to sit up in bed and joke with their comrades, or in a chair regaling themselves with a pipe of tobacco. When all the secretions and excretions are locked up, as occasionally happens, the symptoms of uræmic poisoning are of a more violent character; the sensorium is painfully affected—irritability of temper, screams and wild ravings ensue, followed by convulsions, coma and death.

Various morbid appearances of the ganglia and ganglionic nerves have been described as occasionally met with after yellow fever. No one of these are invariably present—all of them are frequently absent; they often exist in subjects who have died of diseases having not the least resemblance to yellow fever; hence,

when present, they are not to be viewed as among the true anatomical character of the latter.

The glands of the intestines, especially those of Brunner, are occasionally found in a diseased or abnormal condition. The gall-bladder is either empty, diminished in size—withered, as it were—or distended, with its usual amount of bile more or less natural in quality, or its contents may be small in quantity, viscid, inspissated, or mixed with more mucus than common. It is either dark green, blackish brown, or of an obscure red color, and of the consistence of tar. Not unfrequently the gall-bladder contains a quantity of thick viscous blood, grumous, tar-like, or ink colored, or of serum, and more rarely of pus. Its internal membrane is often spotted, or punctated, and sometimes largely injected with blood of a bright or obscure red or brown, or even dark color. It is said often to present traces of unequivocal inflammation.

The liver is usually of a light yellow, nankeen, fresh butter, straw, coffee and milk, gum yellow, buff, gamboge, light orange, or pistachio color. In some cases this discoloration occupies the whole surface, and pervades the entire parenchyma of the organ; while again, in others, it extends only partially over both, giving a marbled appearance, presenting throughout patches or regular striæ, and alternating with others of a dark green color. It is limited occasionally to a single lobe, usually the left. Recent observations would seem to show that this discoloration is due to a fatty degeneration of the organ.

“Frequently, however, as this peculiar coloration of the liver has been observed, it is far from being universally so; cases occurring in which the organ is found of a different hue—dark yellow, brown, red, purple, bluish, slate, chocolate or livid. It has been described as of a brick color, and compared to rhubarb or to Peruvian bark. In other cases, again, it retains its natural appearance externally and internally, and is otherwise healthy. The parenchyma, when divided, is often found hard, dry, tough, and sometimes dry and brittle, and more or less devoid of blood; while, in some cases, the viscus is more or less gorged with blood, and softer in texture than natural. In some cases the biliary pores contain bile, but more frequently there is no indication of biliary secretion.”

ARTICLE XIV.

THERAPEUTIC ACTION OF THE CINCHONA ALKALOIDS. By J. T. McCOLGAN, M. D., of Celina, Tenn.

There are at the present time but few practicing physicians who, if asked the therapeutic properties of quinine and its kindred cinchona alkaloids, would unhesitatingly reply, "Tonic and antiperiodic." Further than this few men care to pursue any investigation; satisfied with the beneficial results obtained from it in the "so-called" periodic diseases, they are willing to be thankful for such marvelous success, and like honest Sancho, "bid God bless the giver, nor look the gift-horse in the mouth." Now we do not propose to instruct the profession at large on this or any other subject, for we are not so egotistic as to believe ourself competent for such a task, but wish to offer a few suggestions, based upon a long experience with these articles, which may be of some interest, though containing nothing new, but simply practical application of well known facts and principles.

We first beg leave to state that periodicity is not an essential element of disease, nor is it even a pathologic condition, but simply a normal physiological manifestation, attendant to a greater or less extent upon almost every "ill that flesh is heir to," and by no means confined to malarial diseases, for which these alkaloids are justly denominated the Sampson remedy. All diseases which exert a depressing effect upon the nervous centers are more or less marked by periodicity, or we might more appropriately say that periodicity is the vibration produced by any jar of the great nervous system, for we find it in the manifestations from traumatic injuries, as well as in disease. We should remember that when the system suffers any injury, whether from natural or from traumatic causes, whether from an over-supply of deleterious food, or a blow from a stick, nature makes an herculean effort to rid herself of the grievance, and repair the injury done, nor does she cease that effort until she exhausts all the powers at her disposal; when that is done she ceases, in order to recuperate for another struggle. This is done under well-known physiological laws. No bodily function will bear continuous ex-

ertion without its periodic rest; contraction must be followed by relaxation, or disintegration is the result; even the heart, which carries on its unceasing action, has its period of rest between every beat; digestion has its periodic stages. We can not support life if we force into the stomach a continuous supply of food, although we do not exceed the quantity required; that organ must have its period of rest, which, if denied, will revolt at what you offer, and cease its work altogether. Periodicity is a law of nature, all-pervading and inexorable, and if disease shows its manifestations more markedly at certain periods than at others, it is in obedience to this great physiological law, and not a pathologic condition of the disease in question.

We have heard men speak gravely of a malarial diathesis which predisposes all diseases in malarial regions to assume a periodic type, but such logic is too puerile to be of any weight, for you must first take for granted the very fact that they are attempting to prove, viz., that periodicity is a peculiar pathologic characteristic of these diseases. Now 'tis true that the periodic manifestation is more observable in these disorders because of the rapidity and severity in which the paroxysms occur, but not more markedly than in epilepsy, hysteria and many other diseases, and we find these periodic manifestations in regions where malaria does not, and cannot exist, and so with the periodic pain in cancer, gout, rheumatism, wounds and injuries; it is as well marked in Northern latitudes as it is in the more temperate zones.

Let us now briefly look at some of the uses of quinine. It is a fact well known to every observer that quinine exerts a wonderful influence over congestion, no matter where situated or how produced, relieving it sooner and more effectually than any other means at our disposal. It is also affirmed, and to the truth of which we bear witness, that it controls hemorrhage to a great extent. Certain forms of dysentery yield to its influence. In suppressed menstrual discharges it is as potent as it is in ague, and as an oxytocic is superior to ergot. Does it fulfill all these indications as a tonic and antiperiodic? It would be rather vague to say that antiperiodic medicine is needed to produce uterine contraction during parturition, and a tonic under those circumstances would be wonderfully slow. That a tonic and antiperiodic would produce hyperæmia of the uterus and promote the menstrual flow, and the same agent check a hemorrhage from

the same organ—one is a normal periodic function, the other is a morbid condition, apparently the exact antithesis of the other; but as it does these things, there must be some good reason for its doing so, and this is the explanation we have to offer. Quinine and its kindred, cinchona alkaloids, are simply *nervous stimulants*, exerting a special stimulant effect on the *vaso-motor nerves*, and thereby equalizing and maintaining that balance in the circulation which is necessary to the normal working of the animal machine.

Now we are all aware that congestion is dependent on a semi-paralytic condition of the muscular coats of the vessels of the part congested, caused by a want of nerve stimuli (see Brown-Sequard and Claude Bernard's experiments), and we further know that where there is too much blood in any given part, it is at the expense of some other; or there is a corresponding deficiency of blood somewhere in the circulation, when there is hyperæmia in any particular part, and in order to relieve this, we must stimulate the vaso-motor nerves to action, and when we do so, the distended vessels contract, the balance of circulation is restored, and harmony is the result. Hemorrhage is dependent on local hyperæmia, and the beneficial effects of quinine in controlling hemorrhage is due, we think, to its stimulating effects on the vaso-motor nerve centers. In confirmation of this view, we would call attention to the following facts: When from the exposure to sudden cold the menstrua is arrested, there is nothing that will so speedily restore the function as decided doses of quinine, and when from a lax condition of the uterine vessels menorrhagia occurs we find quinine just as potent in its arrest. Now in both these conditions we have the same thing inversely in sudden suppression of the menstrua; there is not sufficient blood sent to the uterus to enable it to perform this function, and consequently there must be hyperæmia elsewhere, and the vaso-motor stimulating properties of the quinine causes a more equal distribution by contracting the distended arteries where the local hyperæmia exists. In menorrhagia you have the local hyperæmia in the uterus itself, and it is stopped by the same means.

During any stage of pregnancy you may give quinine to any reasonable degree of cinchonism without disturbing the uterus in the least, and we have known cases of threatened abortion checked promptly and efficiently when opium utterly failed to relieve the pains; and we have, during parturition, produced

uterine contractions with the same drug, where ergot was as impotent as water. Now this is the way in which we account for these seeming inconsistencies. In the first case quinine has a specific stimulating effect over the whole vaso-motor system, and a general contraction of the whole arterial system alike, would not affect the normal status of the gravid uterus. In those cases of threatened abortion the cause was evidently a hyperæmic condition of the uterus, and the quinine relieved what the opium could not. The beneficial effects of quinine in parturition is not dependent on any specific action it has over the contraction of the uterus, but is best observed in those lingering cases of labor, where the patient has pains more of a neuralgic character than true contraction, when contraction commencing creates a reflex action, which from its severity cuts short the contraction, and in those cases of lingering labor where the powers are exhausted, and is due to keeping equalized the sympathetic system and preventing reflex nervous action, thereby allowing labor to proceed naturally.

To account for the beneficial effects of quinine in diarrhœa, we must only call to mind the fact that partial hyperæmia in a gland produces increased functional activity, and in those cases where it is beneficial there is enteric hyperæmia, and they are checked, not by a tonic or astringent effect of the quinine, but by its stimulating properties on enteric vessels, equalizing the circulation and diminishing congestion.

As to its therapeutic effect in malarial diseases, we may reiterate what we have already stated. In all malarial diseases there is a great want of balance in the circulation; congestion is one of its marked characteristics, and while the limits of this article do not admit of a discussion of the pathology of these diseases, we will state that our experience leads us to the conclusion that they are not dependent on any specific *blood poison*, and the primary lesion must be looked for in the great sympathetic ganglia, and the alteration of the blood observed in these diseases is rather from a want of nerve influence in perfecting natural changes, than the effect of any so-called poison. Whatever produces this functional derangement of the nerve centers, there is no better means of remedying it, than sending to the brain a normal quantity of oxygenized blood, and quinine, by its stimulating effects on the vaso-motor system, regulates this supply by restoring the equilibrium of the circulation.

So far as regards the tonic properties of quinine, if we properly understand what is meant by a tonic, we have utterly failed to find that it has any. Its influence is as evanescent as it is potent, but as an adjunct to tonics, it is highly beneficial. As the carpenter uses a clamp to hold his boards together until he fastens them permanently with nails or screws, so do we use quinine. It holds the system temporarily in shape, and gives us a chance to permanently tighten all the loose screws.

All that we have said in regard to quinia holds good with all the cinchona alkaloids; they each and all possess this property of stimulating the vaso-motor system, and the results obtained from them are in proportion to their solubility in the juices of the stomach. These remedies require to go into the circulation by endosmosis, and are only completely soluble in an acid, and if they pass into the duodenum they meet with alkaline secretions which render them more insoluble, and consequently inert. By using acid drinks during their administration (and we prefer buttermilk to all others), there is scarcely any appreciable difference in their effects. We have had as rapid and perfect results with the tasteless cinchona alkaloid by using buttermilk with it, as we ever had from quinine, and we have seen cases where quinine failed to act when given alone, brought promptly under its influence by using acidulous drinks. We have further found that, as a matter of economy, it is well to use them all together. Cinchonidia, sulphate of cinchona and quinia intimately mixed, will produce better results and require smaller doses than either of them alone.

This, from our experience, is the whole therapeutical property of these remedies, and when we reflect on the amount of paresis of the sympathetic centers there is in almost all diseases, if we are correct in our conclusions, it opens a wider field for the usefulness of these preparations which will enable them to confer an incalculable benefit to mankind.

ARTICLE XIV.

THE HYPODERMIC SYRINGE IN THE TREATMENT OF EPIDIDYMITIS.*

By Z. C. McELROY, M. D., of Zanesville, O.; Physician to City Infirmary; Fellow of the Zanesville Academy of Medicine; Member of the Licking and Perry County Medical Societies, etc.

Simple inflammation of the testes, or testitis, as it was named by Sir Astley Cooper, as it has fallen under my professional notice, has been almost invariably the sequel, or one of the results, of gonorrhœa or gonorrhœal inflammation of the urethra. Instances where sufferers have denied a gentle insinuation of gonorrhœal origin have not been wanting, but, while giving seeming credence to their denials, the right to differ with them has never been surrendered.

As it has come under my notice the pathological condition has been mainly confined to the epididymus, or at least was so regarded by me; but of course other textures of this complex gland were more or less involved.

Up to a comparatively recent period the remedial management pursued on my part never yielded results very satisfactory either to myself or patients. And I think I used quite energetically what are known as the orthodox antiphlogistic remedies, including mechanical support of the enlarged and painful organ.

Some years since I found myself confronted with a case in the person of a gentleman with a young and very interesting family around him. The cause he did not attempt to conceal from me. He had made to his better half, who was very devoted and kind in her attentions, an explanation which satisfied her, which after examination on my part, I confirmed. His business urgently demanded his personal attention. He complained of great pain, from which, by no device, could he get a moment's respite. He looked to me for speedy relief, but I could only look grave and promise to do my very best for him.

* From the proceedings of the Zanesville Academy of Medicine, July, 1879.

Having on previous occasions used the hypodermic syringe very successfully for other purposes, never for this, I decided to inject all that I thought he would bear of a solution of sulphate of morphia, one grain to a drachm of water, viz., minims, xxxv, measured by the markings on the syringe (a small instrument, made in Vienna), which was injected beneath the skin of the scrotum. As this was after dark, and the patient in bed, I gave some directions as to mechanical support, and prescribed a half grain calomel granule every four hours, and returned home.

On the following morning I was agreeably surprised to find my patient had passed a most comfortable night; had no pain, and the swelling was much reduced, and the tenderness almost gone. In the evening the injection was repeated, and at my visit the next morning I was again surprised to find my patient had had his breakfast and gone to his place of business before my arrival. And that substantially ended my case, so far as the testes were concerned.

Such are the facts of my first use of the hypodermic syringe in this form of sickness.

Last week a gentleman, with a family, again, came under my care, having had a gonorrhœa six months ago, from which he had never fully recovered, though under treatment all the time, and had lost a great deal of time in consequence of the condition of his testes, or rather one of them. The right testis was found, on examination, to be fully three times the size of its left fellow, very red, and tender, and quite painful. This condition had come on quite suddenly, as it had done several times before. I injected into the scrotum a similar solution, but using only m. xxv. In twenty-four hours all pain, swelling and soreness had disappeared, and the patient had at first thought when he came to examine for the testis, that it had gone too, but it was ultimately found closely drawn up to the external inguinal ring. A suspensory bandage, which he had constructed himself, was worn all the time for months, and is yet worn, but he is at work, and under treatment yet for a gleet.

And between these two, one first, the other the last, similar satisfactory results have followed the hypodermic injections in each case coming under my care. And, as will be seen, the remedial management, from having been extremely unsatisfactory, has become a simple certainty in my hands. It is proper to say that constitutional treatment, mainly in aid of constructive metamor-

phosis, has, in every case, been enforced, with no relapses, and a speedy termination of each case.

Please remember, too, that no other class of cases of testitis have been thus treated, except those of urethral origin.

Reports on the Recent Progress of Medicine.

PHYSIOLOGY.

By I. N. LOVE, M. D., Collaborator for the JOURNAL.

ON THE INFLUENCE OF CARBONIC ACID DRINKS ON THE URINARY SECRETION. (Quinke, per J. G. Brown, *Jour. Anat. and Phys.* Jan. 1879.)—Observations were made on several individuals to whom were administered large quantities of water containing carbonic acid, and who on other days drank ordinary water. The urine passed in the three hours which followed the draughts were compared in each instance, and it was found that that which succeeded the effervescing drinks was always greater in amount than the urine which followed the drinking of ordinary water. He holds that this result cannot proceed from the carbonic acid as such, but is rather the effect of the increased rapidity of the absorption of water in the stomach and intestines. The effect is not observed if an effervescing powder dissolved in only a little water be swallowed. The well known rapid effect of sparkling wines he also refers to the increased rapidity of absorption produced by the carbonic acid they contain. In experiments on dogs the drinking of carbonic acid waters caused no change in blood pressure, and influenced the pulse frequency only very slightly. The respirations were deep and slow. [Considering the physiological action of carbonic acid drinks, we can realize the importance of their liberal use in many forms of disease. No two more valuable agents can be found than the common Seltzer water as a refreshing drink and Koumis as a soothing and palatable nourishment. They are grateful to the stomach, rapidly absorbed, and stimulate the secretions.]

FUNCTION OF THE EPIGLOTTIS IN DEGLUTITION AND PHONATION* (*Jour. Physiology*, Sept. 1878.)—Experiments by G. L. Walton, of the Harvard Medical School, under the direction of Dr. H. P. Bowditch, upon dogs and cats, consisting of complete removal of the epiglottis, proved that it could be done without solids or liquids entering the larynx in the act of deglutition. In three of the animals operated on, two dogs and one cat, the excision was absolutely complete, and no choking in deglutition followed. In the other three cases the valvular portion was removed with a similar result.

Consideration of pathological cases reported by Larrey, Merklin and Bonnet follow, cases wherein the epiglottis was removed by musket ball and ulcerative processes and accompanied by difficulty in swallowing liquids, etc. This result is explained upon the ground that the injury extended beyond the epiglottis and he attributes the difficulty in these cases to pathological alterations of the true organs of deglutition, rather than to destruction of the epiglottis.

The experimenter fully demonstrates as follows:

1st. That the epiglottis can be removed from dogs and cats without interfering with deglutition.

2d. That the cases commonly quoted to prove the connection between the epiglottis and the deglutition of liquids prove nothing; not a single case having been found after a careful search through the reports of laryngoscopic observers, in which the lesion is shown to be limited to the epiglottis, and liquids are reported as causing a cough on deglutition.

3d. That there are many cases in which loss of the epiglottis has not been followed by difficulty in swallowing liquids.

4th. That in failure of the glottis to close, the epiglottis, if uninjured, is able to protect the larynx, but in the normal condition the presence of the epiglottis is not essential to perfect deglutition, and is therefore only an additional safeguard. [Dr. Wm. Porter, of St. Louis, Mo., in the *Amer. Journ. of Med. Sciences* for April, 1879, reports the removal of an ecchondrose involving the epiglottis. At no time after was deglutition more difficult than just previous to the operation, and six weeks later there was little or no functional disturbance. The doctor concludes: "If a benign growth of the epiglottis exist, or there is malignant disease which has not as yet implicated the surrounding parts,

removal of the epiglottis, or such a part of it as is involved, is practicable and justifiable.”]

The Epiglottis in Phonation.—Walton further proves by the aid of a professional singer, examined and studied under the laryngoscope, and of experiments on the voice artificially produced in the dead larynx, that the epiglottis takes different positions during vocalization, in changes of pitch, quality and intensity, and altogether plays an important part in the formation and modification of the voice.

This organ has generally been described by physiologists as a cartilage placed as a valve at the entrance of the larynx to keep food, especially liquid food, out of the respiratory passages, and it has attracted but little attention in its relations to phonation. The facts, however, elicited by these experiments, “point decidedly to the uselessness of the epiglottis in deglutition and the necessity for some such organ to the perfect modification of the voice.”

ON THE ACTION OF HUMAN INTESTINAL JUICE. (A review of Demant by J. Graham Brown, M. D., *Jour. Anat. and Physiology*, April, 1879.)—The author had an opportunity of making observations on intestinal juice in a patient in whom herniotomy had left a complete fistula at the lower end of the small intestine, so that the intestinal tract was divided into two parts, completely separated from one another, in the lower of which pure intestinal juice collected. With the secretion so obtained he performed a number of experiments to ascertain its power of digestion. The results of these are briefly as follows:

1st. Human intestinal juice is a thin, clear fluid of strongly alkaline reaction.

2d. The amount secreted is not large. During the act of digestion more is secreted than at other times. During the night there is almost no secretion at all. Purgatives (Carlsbad salts) exercise no influence on its quantity, composition or power of digestion.

3d. It contains no peptic (albumen digesting) ferment, and it is quite indifferent to all protean bodies.

4th. It changes starch into grape sugar.

5th. Cane sugar is transformed into grape sugar.

6th. Fats which contain free fatty acids are emulsioned by intestinal juice, but neutral fats are not. [These experiments of

Demant are very valuable in their results, the knowledge obtained of the human intestinal juice being more definite than by any previous observers. According to the experiments of Thiry and Funcke upon rabbits, starch was not converted into sugar. M. Foster in his work on Physiology gives this unsatisfactory statement regarding the intestinal juice: "We have no exact knowledge as to what extent the secretion takes place under normal circumstances, and the statements regarding its action are conflicting. Thus it has been said to act on starch, to convert proteids into peptone and to emulsify fats. On the other hand, each of these actions has been denied." Experimentation upon cases like this and Alexis St. Martin by such shrewd observers as Beaumont and Demant are more valuable to real physiological investigation than all the experiments in the world upon the rabbit, dog, etc.]

EXPERIMENTS AND REFLECTIONS UPON ANIMAL HEAT. (By Austin Flint, Jr., M. D., *Amer. Journ. Med. Sciences*, April, 1879.)—In this very interesting paper the author discusses the estimated heat value of certain articles of food, and experiments made with reference to the heat units actually produced by the body.

He then gives an account of observations made upon his own person, in which he endeavored to ascertain something definite with regard to the relations between the heat estimated as produced by the body, the loss of weight of the body during one day's abstinence from food, and the estimated heat value of a carefully weighed quantity of food taken during one day.

Taking his experiments and connecting them with what had previously been ascertained with regard to the questions under consideration, he feels justified in concluding:

1st. It is probable, and, indeed, almost certain, that nearly all the animal heat is produced by oxidation, in the body, of certain elements, which are chiefly nitrogen, carbon and hydrogen.

2d. It is probable that this oxidation does not take place entirely in the blood, but that its seat is in the substance of the various tissues, and that it is connected with the general processes of nutrition and disassimilation. Heat is thus evolved and the final products of the chemical actions involved are mainly urea, carbonic acid and water. It must be remembered, however, that the oxidation is not necessarily a process identical with combustion out of the body, but that it is probably con-

nected with a series of intricate molecular changes which cease with the life of the tissues, and of which we are able to recognize only the final results, viz., calorification and certain chemical products.

3d. Recognizing the products, urea, carbonic acid and water as representing, probably, the evolution of a certain amount of heat, we cannot account for the heat actually produced in the body by the amount represented by the urea and carbonic acid discharged. If we admit that hydrogen is oxidized in the body, resulting in the evolution of heat and the production of water, this will enable us to account for all the heat actually manifested as heat, leaving an excess which may be converted into force.

4th. His experiments show pretty clearly that when no food is taken and when, food being taken, muscular work is performed, so that there is loss of body weight, water is actually produced in the body. This, and this only, enables us to account for all the heat evolved under these conditions. There is no reason to suppose that the processes involved in the production of heat are radically changed in their character when enough food and water are taken to maintain a uniform body weight.

5th. Animal heat is produced mainly by oxidation of the nitrogen, carbon and hydrogen of the tissues, the waste of these elements being supplied by the food. Probably the oxidation of carbon and hydrogen is a more important factor in calorification than the oxidation of nitrogen; at least it is certain that the heat value of the oxidation of carbon and hydrogen is greater than that of nitrogen, and the quantity of heat thus produced is very much greater. Of the two elements, carbon and hydrogen, the oxidation of which produces animal heat, the heat value of the hydrogen is by far the greater.

6th. It is probable that there is always a certain amount of oxidation of hydrogen in the body, and that this is necessary to maintain the animal temperature, and it is almost certain that this occurs during prolonged abstinence from food, and when the production of heat is much increased by violent and protracted muscular exertion. It may be, also, that there is an active and unusual oxidation of hydrogen as well as of carbon in fevers.

The author alludes to the appropriateness of the administration of alcohol in fevers as supplying the demand for carbon and hydrogen, and closes his interesting essay by propounding the

following query, which occurred to his mind in connection with his reflections upon the question of the oxidation of hydrogen as one of the sources of animal heat:

“If the excessive heat produced in essential fevers be due in part to an excessive oxidation of hydrogen, why would not the exhaustion and rapid emaciation which attend the progress of fever be more or less moderated by supplying hydrogen to the system in the form of fatty matters, starchy matters, sugar and alcohol, until the fever has run its course; and might not this supply, to a certain extent, the abnormal waste of tissue?”

ON THE CHANGES PRODUCED IN GLYCOGEN BY SALIVA AND PANCREAS FERMENT. — Seegen, *Pflügers Archiv.*, per J. G. Brown, *Journ. Anat. and Phys.*, concludes:

1st. Glycogen is not entirely changed into sugar by the action of saliva and pancreas extract. When the fermentation is completed, from 60 to 75 per cent is so changed.

2d. The sugar so formed is not grape sugar as it possesses a decidedly small power of reduction, and a much higher specific relation. The former is only 66 per cent of that of grape sugar, and the latter varies from 120° to 130°.

3d. Diastase acts in an analogous manner to saliva and pancreas ferment.

4th. Starch also is not entirely changed into sugar by the action of these ferments, and the sugar so formed likewise possesses the above mentioned characteristics.

5th. Keeping in view the manner of their production and their correspondence as regards power of reduction and relation, the varieties of sugar formed by the action of saliva and pancreatic ferment on glycogen and starch may be called ferment sugar.

6th. By boiling with acids (hydrochloric and sulphuric) only about 75 per cent of the glycogen is changed into grape sugar. A complete transformation of the glycogen takes place when a solution contained in closed tubes is heated to 100° C., for 36 to 48 hours in a water bath.

7th. The sugar formed in the liver is grape sugar.

8th. The second transformation product produced by the action of ferments is dextrin. This appears in two forms: (*a*) *Achroodextrin* at the moment when the opalescence of the glycogen solution disappears. This achroodextrin is precipitated by weak alcohol and by the further action of the ferments it is

changed into sugar. When the fermentation is concluded there remains behind (*b*) a second dextrin, which dissolves with difficulty in 90 per cent alcohol, and which cannot, by further fermentation, pass into sugar. On account of the resistance it offers to acids and to ferments, it may be called *dystropodextrin*.

THE FUNCTIONS OF THE ORGANS OF THE FÆTUS IN UTERO. {Smyly, *Dublin Journ. Med. Sciences*, Sept., 1878.)—Dr. Smyly gives a brief account of the results which have lately been obtained by Gusseron, of Strasbourg, in relation to the functions of the fœtus in utero. He experiments with foreign substances, such as iodide of potassium, ferro-cyanide of potassium, and tincture of iodine, and finds that they pass from the mother to the ovum when the drug has been continuously administered for at least fourteen days. Iodide of potassium was the substance chiefly experimented with, the iodine of which was found in the urine of the fœtus and in the liquor amnii. In thirteen cases out of sixteen, the amniotic fluid was found to contain urea in greater or lesser quantity. Dr. Gusseron concludes from these experiments that the fœtus secretes urine, which is voided after the second month into the liquor amnii.

The urinary matter contained in the liquor amnii does not remain there long, but, as in cases of retention of urine in the fœtal bladder, it probably decomposes and passes into the mother's blood. It is moreover probable that the urine does not flow away continuously, but that it collects in the bladder until a sufficient irritation is conveyed to the spinal cord to cause a reflex action of that viscus, for otherwise the amount of urea found in the liquor amnii would be constant, and not, as is the case, variable in quantity. Gusseron adheres, therefore, to the view that the amniotic fluid is entirely a fœtal production, derived, at least during the second half of pregnancy, from the fœtal kidneys, and is not merely a transudation from the fœtal or maternal vessels, nor is it a result of mechanical œdema, as is shown by its poverty in albumin and white corpuscles, together with its incoagulability, as well as by its being entirely devoid of red corpuscles. He administered benzoic acid to the pregnant mother and he concluded that like certain other substances, it passes in a short space of time from the maternal to the fœtal organism, and further, that it is then converted into hippuric acid, and consequently the fœtal kidneys must have the same function

as after birth, and also that the fœtus micturates into the bag of waters. Finally, if a direct exchange took place between the maternal or even fœtal blood and the liquor amnii, benzoic acid would invariably be found in it, as this alone circulates in both kinds of blood. No benzoic acid, however, was ever found, but generally hippuric. Dr. Gusseron has also confirmed the observations of Mr. Savory in regard to the effect on the mother of poisons injected into the fœtus.

OBSERVATIONS ON A CASE OF GASTRIC FISTULA.—(*Richet comptes rendus*. Dr. J. Graham Brown, *Journ. Anat. and Phys.*, Jan., 1879.)—The case on which these observations were made, was that of a young man on whom gastrotomy had been performed on account of obstruction of the œsophagus. The observations are all the more valuable seeing that the œsophageal obstruction was so absolute that no saliva became mixed with the gastric contents. He draws the following conclusions from his first series of observations: (*a*) The medium acidity of the gastric juice (whether pure or mixed with food) was equivalent to 1.7 grammes of hydrochloric acid in 1000 grams of liquid. It was never lower than 0.5 grams nor higher than 3.2 grams. (*b*) The quantity of liquid contained in the stomach had no influence on the acidity. (*c*) Wine and alcohol augment the acidity of the stomach, cane sugar diminishes it. (*d*) If a quantity of acid or alkaline fluid be thrown into the stomach, the normal acidity becomes rapidly re-established—in the course of an hour or two. (*e*) The gastric juice is more acid during digestion than in the intervals. (*f*) It becomes still more acid towards the end of digestion. (*g*) The sensations of hunger and thirst are not dependent on the amount of acidity, nor on the state of emptiness of the stomach. The gastric juice derives this acidity chiefly from mineral acids, but when food is mixed with it, lactic acid also appears.

SOME POINTS CONNECTED WITH THE PHYSIOLOGICAL ACTION OF PILOCARPINE. (By JOHN SERVICE, M. D., Ass't Prof. Clin. and Med. Univ. of Glasgow., *Jour. Anat. and Phys.*, April, '79.)—The author, in his paper, reports his experiments with pilocarpine, its action upon the secretions and upon the circulation, as demonstrated by the sphygmograph. Tracings were taken from the radial artery of a man recovering from an acute attack of tubular nephritis.

No. 1, taken just before administration of drug, shows considerable tension; pulse, 76.

No. 2, taken three minutes after the injection into the left forearm of one-sixth of a grain of nitrate of pilocarpine (a small dose), shows great reduction in tension and marked dirotism; pulse, 116. Ten minutes later the full effect was obtained, and at the end of an hour all effect had passed off. If a larger dose had been given the return to the normal state would have been longer in taking place.

Other experiments were made with larger doses and more marked results—increased secretion, increased heart action, diminishment of arterial tension, greater frequency of pulse, and more marked dirotism. The injection of the one hundredth of a grain of atropia when the system was completely under the influence of the pilocarpine was followed within five minutes by a marked abatement of its effects, and at the end of fifteen minutes the effect of the pilocarpine had entirely disappeared.

Jaborandi was first introduced to the profession in the year 1873-'74, by Dr. S. Continho, of Pernambuco. Its alkaloid, the nitrate of pilocarpine, was isolated by A. W. Gerard, of London, in the beginning of 1875. The latter is much to be preferred, as it can be given hypodermically in minute doses, the jaborandi being intensely nauseating and disagreeable.

The paper of Service is of service, in that the sphygmograms demonstrated that pilocarpine acts by paralyzing the vaso-motor nerves, increasing the heart's action, producing a dirotic pulse. It is further valuable, in that it shows a marked antagonism between pilocarpine and atropine, the one being a positive antidote to the other. [The writer can bear testimony to the most efficient action of pilocarpine in conjunction with digitalis in the treatment of the œdema of Bright's disease. We cannot know too much of the physiological action of remedies. Medication is the end and aim of all our study and investigation.]

THE BILE.—One of the generally accepted functions of the bile (that of being nature's purgative) has received strong confirmation by experiments made by Schülen upon dogs. He found that bile and its acids, when brought into the intestines, causes diarrhœa by increase of peristaltic action, and in large doses, also vomiting. Cholalic acid is more powerful than either taurocholic or glycocholic acids or bile itself. The amount of

cholate of sodium necessary to cause diarrhœa was 0.5 to 1.0 gramme.

THE JOURNAL OF PHYSIOLOGY.—The successful establishment of this journal especially devoted to physiological investigation marks an epoch in the history of physiology. As long as Foster controls it, we know what to expect, and we will not be disappointed. He is ably assisted in the editorial work by Gamgee, of Manchester; Rutherford, of Edinburgh; Sanderson, of London; Bowditch, of Boston; Martin, of Baltimore, and Wood, of Philadelphia. Able, original and interesting articles have appeared in every number that has yet been issued.

DEFIBRINATED BLOOD FOR RECTAL ALIMENTATION. (*New York Med. Jour.*, April, 1879.)—A committee was appointed by the Therapeutical Society of New York to investigate the benefits of defibrinated blood for rectal alimentation. They had under their care and observation sixty-eight cases which received the treatment. Of thirty-eight cases of phthisis, twenty received decided benefit; one with diarrhœa complicating was made worse; of nine cases of anæmia, eight were greatly improved or cured; five cases of dyspepsia, all received benefit—several cured; one case of dyspeptic asthma entirely relieved; two cases of neuralgia decidedly improved—one not.

The committee arrived at the following conclusions:

1st. That defibrinated blood is admirably adapted for use in rectal alimentation.

2d. That in doses of two to six ounces, it is usually retained without any inconvenience, and is frequently so completely absorbed that very little trace of it can be discovered in the dejections.

3d. That administered in this way once or twice a day, it produces in about one-third of the cases, for the first few days, more or less constipation of the bowels.

4th. That in a small proportion of cases the constipation persists, and even becomes more decided the longer the enemata are continued.

5th. That in a very small percentage of cases irritability of the bowels attends its protracted use.

6th. That it is a valuable aid to the stomach whenever the latter is inadequate to the complete nutrition of the system.

7th. That its use is indicated in all cases not involving the

large intestine and requiring a tonic influence which cannot readily be obtained by remedies employed in the usual way.

8th. That in favorable cases it is capable of giving an impulse to nutrition which is rarely, if ever, obtained from the employment of other remedies.

9th. That its use is wholly unattended by danger.

[These conclusions are interesting from a physiological as well as therapeutic standpoint, and are practical, and they afford a basis for future experimentation and practice.]

RED BLOOD CORPUSCLES. (*Med. Rec., per Detroit Lancet*, Sept., 1879.)—Dr. L. Elsberg propounds the queries regarding the red corpuscles: Do they contract? Are they living bodies? He answers by giving the result of his observations on these points for a period extending over three years. He, in making his observations, added to a drop of blood 50 per cent of a saturated solution of bichromate of potash, covering it with a covering glass, the edges of which had been well oiled, and placing it under a magnifying power of one thousand or more diameters, and had been able to prove that the red blood corpuscle possessed not only inherent power to contract its body, but also to resume its ordinary form, yet not to such an extent as is seen in the colorless corpuscles; they exhibited active form changes and interior movements. The changes in form were of two varieties—indentation and protrusion; sometimes one and sometimes the other taking place, and both might occur in the same corpuscle at the same time. The indentation usually commenced first, and ordinarily predominated. The indentation sometimes went on to almost complete division of the corpuscle.

The author concluded that vital movements took place inside the red blood corpuscle, and also such as changed the form of the body. His investigations enabled him to say that the red blood corpuscles had *no separate investing membrane*. Should his observations prove correct, that the red blood corpuscles are really unattached portions of the living protoplasm of the entire body, it is easy to understand how, after giving up their coloring matter, they may play an important part in the reparative process following extravasations and the proliferations which were induced by inflammation. The red blood corpuscle differs essentially from the white only in the possession of red coloring matter.

Translations from the German.

PHYSIOLOGY, PATHOLOGY AND THERAPEUTICS IN OPHTHALMOLOGY.

[Taken from Prof. NAGEL's *Jahresbericht ueber die Leistungen und Fortschritte im Gebiete der Ophthalmologie*, and from other sources.] By S. POLLAK, M. D., Surgeon to the Eye and Ear Infirmary of the St. Louis Hospital.

STRUCTURE OF THE LAMINA CRIBROSA.

MACKELLAR (*Glasgow Med. Jour.*,) considers that, although the proportion differs in different eyes, yet in most cases of the fibers entering into the formation of the lamina cribrosa, those of the choroid are in excess of those derived from the sclerotic, and in some eyes the choroidal fibers are hardly supplemented by the sclerotic at all. This fact has a great bearing on hypermetropia. In every eye in which a great amount of accommodation is necessary in order to obtain clear vision, the choroid is of necessity pulled upon and strained by the action of the ciliary muscle, and if the lamina cribrosa be mainly formed by that tunic, it follows that the optic disk, the retina and its vessels are all exposed to serious disturbance. Whenever the ciliary contracts, the fibers of the choroid, which pass through and support the optic nerve, are put on a stretch, and the retinal vessels and disk suffer; and whenever that muscle relaxes the whole fundus becomes abnormally hyperæmic from the sudden cessation of tension of the lamina cribrosa. Thus many cases of retinitis hyperæmia, with subsequent anæmia and atrophy of the disk, may be due, not to primary alterations in the tissues themselves, but to the effect of choroidal irritation.

TOXIC AND OTHER DISADVANTAGES OF ATROPIA COLLYRIA.

Several cases of poisoning by atropia collyria have come under observation, and were discussed at a meeting of the *Société de Médecine de Paris*. Such lotions may penetrate into the puncta lachrymalia, and thence into the pharynx and digestive

tract, thereby causing very serious toxic symptoms. These accidents, however, do not last long, and are remarkable for the suddenness with which they both appear and disappear. Precautions ought to be taken to avoid them by compressing the puncta lachrymalia during the application, and thereby preventing the liquid from passing into them and thence into the pharynx.

PELTIER (Thèse de Paris) says that the symptoms vary exceedingly in intensity, from a simple heightening of the temperature to a general intoxication, but in every case they must be ascribed to an idiosyncrasy which cannot tolerate atropiæ. The characteristic symptoms of atropia poisoning are, dryness of mouth and throat, unquenchable thirst, loss of taste, feeling of numbness in the face, excessive mydriasis, cephalalgia, vertigo, giddiness, photopsia and delirium; sometimes intense peri-orbitary pains and violent conjunctivitis and eczema of the eyelids.

The dangerous effects of atropia may be successfully counteracted by a hypodermic injection of morphia. If such an injection be given at night the atropia may be used during the following day without experiencing bad results. Whether the poisoning arises from the atropia being conducted through the lachrymal duct into the digestive tube, or if the absorption does not rather take place through the conjunctivæ, which is known to possess rapid powers of absorption, is a mooted question.

As atropia is apt to give rise to troublesome and dangerous symptoms, the desire has naturally arisen to discover some other substance which possesses all its efficient properties without its drawbacks. Several alkaloids have been suggested, such as daturine, hyoseyamin, eserine, duboisia, gelseminum and chlorhydrate of pilocarpine.

VON WECKER thinks that *eserine* will take the place of atropia in the treatment of affections of the cornea, for the following reasons: 1st, eserine lowers the ocular pressure, while atropine increases it by dilating the vessels. 2d, eserine diminishes the secretions of the conjunctivæ by contracting the vessels, while atropine increases it. 3d, It reduces diapedesis, but atropia, by pushing the iris back towards the corner of the anterior chamber, is apt to retain the eye fluids, which ought to be allowed to flow out.

Duboisia is being used with great success in cases where atro-

opia could not be tolerated. The high price of it precludes its being used in general ophthalmic practice.

SAMELSOHN, on *vaso-motor disturbance* of the eye (*Archives für Ophth.*), mentions a case of *hemikerania angio-paralytica*, in which during several attacks, myosis with deep pericorneal injection of the eye of the affected side was found; and another where myosis, but no injection, was seen; and again in *amphikerania*, or double-sided hemikerania, where the pupil was dilated with ciliary injection.

The following interesting case of an intermediate form between *hemikerania sympathico-paralytica* and *ptosis sympathico-paralytica* is reported. A man aged thirty-two, after exposure, sickened with a moderate ptosis of the left eye, periodical flow of hot tears, and also watery secretion from left nostril, hyperæmia of bulba and palpebral conjunctiva, strong ciliary injection, especially in upper and outer quadrant of the cornea, cornea clear, pupil contracted, retinal vessels normal, tension not observed, left side of the face very ruddy, especially when under excitement; temporal artery and carotids pulsated much stronger on the left side; on the left upper lip herpetic eruption; a sensation of heat, heaviness and pressure on the left side of the face, increasing almost to neuralgia. Samelsohn regarded this as a disease of the left cervical sympathetic; it was promptly relieved by the application of the constant current.

The same writer, in an elaborate essay (*Arch. für Ophth.*), tries to establish the pathology of *cyclitis vaso motoria*. The disease is characterized by a deep pericorneal injection, extending to the posterior border of the ciliary body, contraction of pupil, but otherwise normal appearance of iris, violent neuralgic pain. The angioneurotic character of it is proven by, that through its entire course, no *inflammatory product is found*, and by its *very sudden termination on the appearance of a herpatic eruption on the head*.

The diagnosis is often difficult on account of the few objective symptoms. Prognosis usually favorable; treatment—a let alone. The following cases are noteworthy: A man æt. twenty-eight, became affected with a painful ophthalmia; the medial side of the cornea was deeply injected, intra-ocular pressure and iris normal; pupil contracted. Diagnosis: Incipient iritis; atropia effected a slow but imperfect dilatation, upon which pains les-

sened. After a few days a relapse occurred. Injection increased, reaching further back, and appeared to come from a greater depth, iris normal, intra-ocular pressure showed remarkable oscillation; it *increased with the remission of pain, and decreased when the pain was greatest.* At the same time the carotids and the temporalis of the right side pulsated strongly, with congestion to the head. This very distressing condition lasted eleven days, neither antiphlogistics, narcotics, nor quinine were of any avail. and without causing hypopion or vitreous opacities, as might have been expected, when on the twelfth day it came to a sudden termination by the appearance of a herpetic eruption on the right side of the head. The cure was prompt and complete.

In another case, the series of symptoms came in an inverse order. They commenced with a typical herpes facialis, and after cicatrization had begun the eye began to suffer and exhibited all the phases above mentioned.

From these clinical facts, based upon physiological deduction and analogies with other affections attributed to vaso-motor causes, Samelsohn concludes that the cases above related are due to a paralysis of a part of the vaso-motor and ocular-pupillary fibers of the sympathetic (which are distributed in the trigeminus). This paralysis, which had existed some time, disappears suddenly, the exciting cause having been transferred to the adjacent tissue or organ, the primary affection is displaced by a new revulsive act.

GIOVANNI (*Annali Univ. di Med.*,) found the pupil strongly contracted in three cases of heart disease. One was stenosis of the aorta, with insufficiency of aortic valves; the other stenosis of the ostium atrio-venticulare, with mitral insufficiency; and the third, stenosis of the aorta, with mitral insufficiency. All suffered from asthma, with the paroxysms of which myosis increased. The pathology in all these lies in a hyperæmia of the ganglion of the sympathetic, which is not always the case in heart disease.

CARTER (*Lancet*) recommends a new method for making an artificial pupil for optical purposes. In central opacity of cornea or lens the V shaped pupil is the best, but which, by the method of Bowman and Wecker, is rather dangerous to make, giving easily rise to traumatic cataract or dislocation of the lens.

Carter's method is as follows: A small opening is made in the margin of the cornea, through which *Wecker's scissor-pincette* is introduced, closed; on opening it, a small fold of the iris insinuates itself between the branches, which is snipped off on closing them. The pupil has then the desired form. The little piece of iris comes out with the withdrawal of the scissor-pincette, or is removed with the iris forceps. He favors this method on account of its simplicity and harmlessness. The iris remains *in situ*, is not strained, dragged on, and is not likely to adhere to the wound of the cornea. [Has been found easier of execution and less dangerous than any other method tried. S. P.]

MOORE (*Dublin Jour. of Med. Science*) observed the following case of pyæmia in consequence of puerperal phlebitis, in which two days before death, panophthalmitis developed itself, and at the autopsy a thrombosis, embolism of the left vena ophthalmica and of the left sinus cavernosus were found:

A woman æt. twenty-two had a normal confinement, and felt quite well the first four days. On the fifth day fever set in, in consequence of an error in diet; left thigh swelled up enormously; in four weeks pleurisy of the right side supervened. Five weeks after confinement the left eyelid became œdematous and the conjunctiva chemosed. The refracting media were turbid, and consequently ophthalmoscopic examination impossible. Two days later, with symptoms of panophthalmitis, sight was extinct. Death ensued soon after. Neeropsy revealed purulent infiltration in all the membranes of the eye, in the vena ophthalmica and sinus cavernosus, coaguli which appeared to be of recent date, and were clearly distinguishable from the softened thrombi in the vena-iliacæ.

In the discussion that followed, Kennedy mentioned that fifty years ago an epidemic typhus prevailed in Dublin, in which total loss of eyes in a similar way was observed. He had himself many cases of destruction of the eye, of pyæmia and spinal meningitis.

BOUCHERT (*Gaz. des Hopitaux*) describes a case of *tubercular meningitis and choroiditis*, clearly made out by the ophthalmoscope. He found a swollen papilla, with ill-defined margin; arteries imperceptible; veins dilated and engorged. In the choroid was a tubercle in the shape of a glistening white spot

which elevated the retina. Autopsy revealed miliary tubercles in the lungs, pleura, liver, spleen and kidneys; acute dropsy in the ventricles of the brain, flattening of the convolution, hyperæmia of the pia, but only one tubercle in the same, a small encephalitic growth in the corpus striatum; both bulbs showed œdema of the papilla and retina; serous effusion in the sheath of the optic nerve, and also a very distinct tubercle in the choroid.

THOMAS REID (*British Med. Jour.*,) exhibited in the Pathological Society of Glasgow four bulbs with *intra-ocular sarcoma*. The first was from a man of twenty, with whom the dark brown tumefaction emanated from the ciliary region. After enucleation examination demonstrated a round and spindle-celled sarcoma. No return after a year.

The second belonged to a man of forty-five, who suffered from an exaggerated exophthalmia, with anterior staphylomatous projection. On opening, the bulbar cavity was filled with a whitish soft mass, but the center was a little more solid and pigmentary, and proved to be a round-cell sarcoma. Six months after enucleation a metastasis in the processus alveolaris of superior maxillary took place. Death ensued five months later.

The third was from a child of eighteen months. After enucleation the orbit was filled with a mass which communicated with a like intra-ocular substance. It returned in a month, and the child died seven days later. Here also was a round-cell sarcoma, with a fibrous stroma.

The fourth was from a man of sixty. The typical melanotic tumor forced its way into the orbit. Relapsed in six months.

WILSON (*Dublin Med. Jour.*,) also exhibited a *pigmentary sarcoma* of the eye. It was from a man æt. twenty-seven, in whom six months prior to enucleation, an anterior staphyloma had developed, which was amputated, but which proved to be the anterior part of a melanotic tumor. The opening of the bulbs showed no trace of a retina, lens, iris or vitreous, but the entire bulbar cavity was filled with a homogenous black mass. The tumor was a small spindle-celled pigmentary sarcoma, which emanated from the choroidea.

NETTLESHIP (*Ophth. Hosp. Reports*) gives the after history of fifteen cases of *malignant tumor* of the eye. In four relapses

either local or general, which occurred, there was always reason to assume that the primary disease had existed many years prior to enucleation. In two, hereditary disposition was shown; in two, relapses occurred very quickly; in three, metastasis upon other organs were found. In no instance was the affection of the eye in its relation with glandular disease demonstrable.

Translations from the Spanish.

EXCERPTS FROM LATE SPANISH JOURNALS. [Translated for the JOURNAL by Dr. A. H. OHMANN-DUMESNIL.

CLINICAL STUDY OF YELLOW FEVER.—According to Dr. Cunisset, yellow fever is not a *poisoning by bile*, for its pigments can neither be found in the blood nor in the urine except in very rare cases. The biliary salts exist neither in the matters vomited, fæces, urine or blood. Instead of vomiting a biliary intoxication there seems to be rather a deficiency in its secretion.

It is not a *poisoning by cholesterin*, for it is not found in the blood except in inappreciable quantities.

It is not due to *uræmic intoxication*, for in many fatal cases elimination of urea is not diminished. The blood alone contains an infinitesimal quantity; the quantity of urea however is diminished. If, in cases complicated with suppression of urine, the patients die in such a short time, it is because the blood cannot disengage itself of products of incomplete decomposition, these products being intermediate between urea and albuminoids.

It is not due to *poisoning by ammonium carbonate*, as the blood does not contain any, as the urine is decidedly acid in reaction.

The author thinks that the true pathology of yellow fever consists in a *fatty degeneration of glandular and muscular tissue and the loss of hæmoglobin through the serum of the blood*.

The fatty matters infiltrating the viscera owe their origin to a transformation of the proteid element of the tissue. The cause is an incomplete combustion and decomposition. Instead of receiving a quantity of oxy-hæmoglobin, sufficient to oxydize

and convert the albuminous substances into urea, the viscera receive less than in their normal state. These materials then are decomposed into fatty and nitrogenized particles. The former remain where they are formed and the latter pass into the blood and infect or poison it.

The author can furnish no positive proof of a smaller amount of oxy-hæmoglobin being sent to the viscera, but says that this is easily conceived when we consider the alterations going on in the blood.

It is observed that hæmoglobin is found in the serum; this is from red blood corpuscles which can not absorb oxygen and for that reason split up. Dr. Cunisset supposes that a ferment is introduced in the organism, this ferment depriving the hæmatin of one-fourth of its oxygen and thus preventing the formation of hæmoglobin and through it of oxy-hæmoglobin.—*Chronica Medico Quirurgica de la Habana*, July, 1879.

CONGENITAL AMAUROSIS SPONTANEOUSLY CURED AT THE FIRST APPEARANCE OF THE MENSTRUAL FLOW.—Dr. J. Santos Fernandez, after a short preliminary dissertation on the various effects of menstruation on different diseases, noting its almost invariably beneficial effect, gives an account of the following case:

On March 23, 1879, Miss Aurora X., accompanied by a well-known physician, presented herself for examination. She was 22 years old, of average height, well formed and of a nervous lymphatic temperament; born in South America, her father being German and her mother Spanish; she said that she was born blind. All means to effect a cure had been unsuccessfully tried in her infancy and these proving unavailing she was left without any treatment. She remained in this state until she attained the age of 14½ years. One morning on awakening she was struck by a new and unknown sensation—she saw; the furniture and other objects in the room presenting forms totally unknown to her. A great terror seized upon her and she was with great difficulty calmed by her mother. On superficial examination there is nothing to indicate the former existence of any previously existing amaurosis.

The eyes are large and slightly bulging, as they are in ordinary myopia, the left being slightly more pronounced in this respect. This would have been attributed to a blow received on the left nasal bone and inner and inferior part of the left orbit,

the result of an accident in her sixth year, had not there been the assurance that it had always existed.

The acuteness of vision is perfect, as by holding a book sufficiently near, she can read the smallest type with either eye. She recognizes a person at a moderate distance with tolerable accuracy; she uses concave lenses, about No. 8.

In the fundus of the eye everything appears normal. At the external margin of each pupil there is a slight posterior staphyloma, almost imperceptible in the right and about two lines in extent in the left. This confirms the existence of myopia.

The author asks: "How can this amaurosis and its cure be explained?" The absence of any lesion in the fundus, the perfect transparency of the different media, the normal movements of the pupil and the vessels preclude any idea of a sudden change having taken place. He thinks it best to suspend judgment till a satisfactory explanation is offered to this question which he commits to the care of physiologists to elucidate.—*Ibid.*

Translations from the French.

EXCERPTS FROM LATE FRENCH JOURNALS. MUSCULAR POISONS.

By DR. A. H. OHMANN-DUMESNIL.

M. Laborde, at a meeting of the Biological Society of Paris, gave the results of some of his investigations. He defines a muscular poison as one which abolishes contractility, but which leaves intact the stimulating power of the nerves and does not alter the histological constitution of the tissues. If, for example, a muscular poison like curare be placed directly upon a muscle, the contractility is, in a short time, abolished, and symptoms of a general intoxication soon supervene.

Sulpho-cyanide of potassium, experimented with in the same way, also abolishes contractility, but it at the same time modifies the histological elements of the muscle. For, on examination he finds that those parts which have been in contact with the poison are granular and that the striæ have disappeared. Symmetrical muscles are not affected in pairs, and the heart continues

its contractions unless the sulpho-cyanide be directly applied to it. By employing this and other methods, the author comes to the conclusion that not only is sulpho-cyanide of potassium not a true muscular poison, but that there is none of mineral origin. They are all of vegetable origin.—*Progrès Médicale*, Aug. 2, 1879.

Muriate of Pilocarpine in Obstetrics.—M. Hyernaux, in a paper to the Belgian Academy of Medicine, makes the following conclusions in regard to the drug. 1. Pilocarpine exercises no special oxytocic action on the uterus. 2. It may produce abortion, just as any other medicine of a violent action may. 3. That from observed facts, it is dangerous to the mother and foetus alike. 4. That its effects are to be still studied *in animâ viti*, in preference to the human subject. Prof. Müller, of Berne, supports these views, he having largely experimented upon pregnant women.—*Lyon Médicale*, Aug. 3, 1879.

Ocular Lateropulsion in Paralysis Agitans.—In February, 1878, M. Debove was the first to have recorded this curious phenomenon and Dr. E. Neumann gives an account of a similar case in his charge. The patient, a man aged 62, has had paralysis agitans for about six years. Besides the classical symptoms, he has one which especially deserves attention. When he reads he experiences great fatigue after a short time. This is due to the severe exercise his eyes undergo, for whenever he has finished a line he has to search for the beginning of the next one. If he reads a book in which the pages are divided into columns, or a newspaper, the difficulty is increased, and he will often entirely lose the place. Often he will read lines in the different columns which are on the same horizontal plane, i. e., his eyes will follow the direction they have taken and this involuntarily. This the author says is due to the impulse acquired and is a true propulsive, or a rather, latero-pulsive action in no wise differing from that observed in the limbs. To arrest this movement, or resume anew, induces great fatigue, and the author thinks that this is a symptom which merits attention.—*Progrès Médicale*, Aug. 9, 1879.

Dermoid Cysts.—M. E. Gironde embodies the results of his observations on three dermoid cysts, in an interesting paper, the cases being given in detail. Two were in comparatively rare sites, the median line of the neck and the mastoid region. The

cysts were lined by skin covered with hair. The skin in every instance was devoid of papillæ and of sudoriparous glands and the sebaceous glands were very rudimentary. — *Lyon Médicale*, Aug. 17, 1879.

Monstrosity.—Dr. A. Malherbe presented to the Anatomical Society of Paris a cast of a fœtus of about 7½ months, having the following peculiarities: A single eye in the middle of the face; below the forehead a lozenge-shaped opening formed by the fusion of the palpebral openings. The superior angle of this cavity is surmounted by a flabby, penis-like projection having a cavity termination in a *cul-de-sac*. In the eye all the parts are present except the optic nerve. The mouth is normal as are also the body and extremities. The projection above the eye is undoubtedly the rudiments of the nose. The monstrosity comes under the class of Rhinocephalic Cyclops (*Cyclopean rhinocephale*) of Geoffroy St. Hilaire.—*Progrès Médicale*, Aug. 23, 1879.

Death from Venous Hemorrhage.—Dr. Lafont gives the account of a case, very interesting in a medico-legal point of view. A man, aged 62, cut the median cephalic and one or two smaller veins of the left arm, with suicidal intent. The author is positive that no artery was cut and still the hemorrhage was so great that it amounted to about six litres. Syncope and death followed. The victim was found in bed with clean linen on, a razor by his side and not a drop of blood on the clothes, except what was due to the razor. In a zinc bucket at the bedside the amount of blood specified was found.—*Ibid*.

Proceedings of Medical Societies.

MITCHELL DISTRICT (IND.) MEDICAL SOCIETY.

ADDRESS ON THE AIMS AND OBJECTS OF THE SOCIETY. By G. W. BURTON, M. D., of Mitchell, Ind.

Some of the objects of this Society are to give "frequent and emphatic expressions to the views and aims of the profession; the elevation of the standard of medical education; for promoting the usefulness, honor and interests of the medical profession; for encouraging concert of action among its members; for fostering a friendly intercourse between those engaged in it; for enlightening and directing public opinion in regard to the duties, responsibilities and requirements of medical men; and for the promotion of all measures adapted to the relief of the suffering, and to improve the health and protect the lives of the community."

To consider these various objects at length would not come within the scope of a paper like this. I need not call the attention of medical men to the importance of these objects; they are apparent. To the laity I will say that our rapid advance (and I apprehend that you will all concede that the advance in the healing art has been equal to that of any other department of civilization) in the last decade has been due to the expression of the views and the opinions of organized bodies of our profession. In fact our medical literature is teeming with the views and opinions of the leading spirits of the medical world, expressed in organized bodies or societies.

That the standard of medical education is being elevated is also apparent, three full years of study and an additional course of lectures being required in most of our colleges; twenty weeks for a course in lieu of fourteen to sixteen, as heretofore, with increased facilities for study in pathology, microscopy, chemistry, physical diagnosis, etc.

That friendly intercourse is gaining ground is evident from the frequent medical gatherings, and the interchange of opinions and experience; also from the more frequent consultations in the sick chamber. You will pardon me, gentlemen, for urging upon you the importance of consultations. Let us share together the responsibilities of all dangerous maladies where life is seriously threatened, and in that spirit that ought to characterize a learned

profession, but never, never coming down to the level of an irregular, in the duties pertaining thereto.

In our efforts to enlighten public opinion as to the duties, responsibilities and qualifications of medical men, we are very far from what we could wish. The law of the great State of Indiana only requires of a would-be doctor for him to say so, "swing his shingle to the breeze," and go at once to making "pills and bills." And, strange to say, our people, intelligent as they are, do not hesitate to patronize these venders of dangerous and poisonous drugs. Since the enactment of medical laws in the States of Illinois, Kentucky and Ohio, it is estimated that 600 doctors have been added to Indiana from those States that were not recognized at home.

The last proposition is that to which I especially desire to call your attention, "To improve the health and protect the lives of the community." We are not provided with correct data, and in our statements can only approximate the facts. We have no means of knowing in this State how many have been born, and of what parentage; how many have died, of what disease, and at what age, we know not, and can never know. There have been repeated epidemics of cholera, of small-pox and other contagions, spreading more or less over the State; but what destruction of life they have wrought, what suffering they have inflicted, and what damage done to the social and material prosperity of the State, cannot, for want of proper records, be even approximated. We know that similar epidemics will occur again and again, unless measures are adopted to prevent them.

Small-pox, typhoid fever, scarlet fever, diphtheria, cholera, yellow fever, malarial fever, and the various complaints known to be caused by filth, are among the preventable diseases. Distinguished sanitarians all over the country are of opinion that, with proper sanitary regulations, one-half of the sickness and death could be prevented. Dr. Charlton, of Jackson County, is of opinion that a system of effective drainage and other sanitary improvements in that county would prevent half the sickness and death, and be a saving in money to the county of \$50,000 annually. Gentlemen with whom I conversed during the late session of the Indiana State Medical Society from the west and southwestern portions of the State, are of opinion that more than half of the sickness of their respective communities, by proper sanitary regulations, could be prevented. In fact, it is the opinion that obtains in all parts of the country.

The death rate in Indiana is variously estimated at from 32,000 to 46,000 annually. Taking a financial view, it is one of the most expensive and wasteful directions in which imperfectly organized society is taxed for its carelessness and ignorance. The money value of a human life, according to Dr. Farr, Register-General of England, is \$625. The value of a soldier in the United States is calculated at \$1,000, based on the cost of re-

placing the soldier. Now, I do not consider this a fair estimate, but for the present we will so consider it. It is generally conceded that the sick that recover will cost the State more than three times as much as the deaths. (It is allowed for every death there are twenty cases of sickness.) Now, if these figures are correct, the loss from death to the State is \$16,000,000, from sickness, \$48,000,000. The cost to Indiana (according to these figures) from sickness and death, that might be prevented, that ought to be prevented, is the enormous sum of \$64,000,000 annually. But we will suppose that only one-fourth of it could be prevented, and we have \$16,000,000; or allow that by proper sanitary regulations only one-tenth could be prevented, and still we have the enormous sum of \$6,400,000 saved.

The cost of the most efficient sanitary measures would be but the merest trifle, when compared with such losses. Life is too precious, and health too dear, to be held in unnecessary jeopardy. The best protection that the sanitarian and legislator can provide must be secured. The "spirit of the age" demands legislation. Twenty States of this Union have already invoked the authority of the law in defense of the public health. Shall the great State of Indiana follow? A measure so obviously affecting and conserving the dearest interests of the people cannot much longer be delayed. The value of the knowledge such legislation would accumulate, gathered from so wide a field, and the contributions it would make to science and the progress of the race, could not be estimated. But the material prosperity which would follow, consequent upon the decrease of mortality and the longer enjoyment of life and better health, would cover the cost a thousand-fold. Besides there is more than money and more than science in it. The lives which affection has consecrated are more precious than rubies, more valuable than science. There are springing hopes and loving hearts upon which no price can be set.

In view of the great loss of human life, and human suffering that could be prevented, that ought to be prevented, what is our duty? What does the medical profession owe the public that has not already been discharged? It is true that a great many members of our profession, aye, I doubt not but a large majority, have raised the warning voice and cried against the evils that threaten humanity, and yet failed to arouse them to a sense of their danger. Must they continue? Most assuredly. It is our positive duty to wage a ceaseless warfare against our great enemy, disease, and in favor of sound sanitation. Every principle of humanity demands it; the poor physical wrecks coming from our schools, colleges and universities, demand it; the helpless children of the land, exposed to contagions, to illy-ventilated homes, and worse school buildings, demand it. We owe it to the memory of our brethren who in so many battle-fields against disease and death, who, Christ-like, had given their lives for suffering humanity.

CEPHALÆMATOMA NEONATORUM. By H. M. SMITH, M, D., of Vincennes, Ind.

This term is employed to designate a non-pulsating, sanguineous tumor which forms sometimes in the cellular tissue of the scalp of the new born child, between the bones of the skull and the pericranium. Its color differs not from the surrounding integument, and it varies in size from that of an egg to that of an orange, according to the quantity of blood extravasated. This must not be confounded with the false cephalæmatoma produced by effusion of blood in the cellular tissue between the aponeurosis of the scalp and pericranium, which is simply a bruise, and is of a purplish cast. The latter is frequently met after protracted labors and demands little if any treatment, for it disappears in a few days spontaneously. But such is not the case with true cephalæmatoma, since serious consequences and even death have resulted from it, although the accident has been often treated lightly by the profession, and some of the authors on the diseases of children do not mention it, a circumstance, owing I think, to its rare occurrence and its being confounded with the false disease, which is familiar to every general practitioner of medicine.

Cephalæmatoma may occur in any part of the scalp, but its usual seat is over one or the other parietal bone. Statistics show that out of 189 cases recorded, 159 occurred over one or the other parietal bone, 11 on both sides, 2 on the occipital, 2 on the frontal and 1 on the temporal bone. It is said to occur most frequently in male children, although no reason is discernible for such an occurrence.

The tumor may or may not be fluctuating when observed by the practitioner, and may or may not pit upon pressure, owing to the changes which speedily take place in the blood after extravasation; the longer the time elapsed before observation after the accident, the less likelihood that fluctuation will be observed and the more certainly will pitting follow pressure. In his treatise on the diseases of children, Tanner says that in addition to the sub-cranial hemorrhage, effusion may occur between the dura mater and the skull, and then the prognosis is quite unfavorable. The same authority says the base of the tumor often becomes encircled by a hard ring caused probably by the occurrence of ossification in the exudation which is poured out by the irritated pericranium.

The remote cause of the disease has been generally attributed to protracted and difficult labors, especially where instrumental deliveries have been resorted to, but such has not been my own nor the experience of many who have written upon the subject.

During a practice of more than thirty years, the writer has never met with but one case, and that did not follow instrumental delivery, whilst the latter form of delivery has not been infrequent in his experience. On the other hand, Dr. Weber, in the *St. Petersburg Wochenschrift*, says in fifteen years he met with 20 cases, all resulting, in his belief, from instrumental deliveries. But others, equally laborious in the practice of gynecology, assert that such accidents often follow easy labors and even pedalic deliveries. Tanner says the accident may result from long continued pressure upon the head during difficult labor or it may appear after an easy delivery. That the disease often occurs after difficult labors is doubtless true, yet the fragility of the blood vessels in certain conditions of the nervous system, contributes largely to the liability of the occurrence, and may cause it, without any great pressure immediately preceding it.

From what has been said, as might be expected, the treatment of cephalæmatoma neonatorum as recommended, is as diverse as are the standpoints which the different authors take. Tanner has generally left the treatment to nature, rarely even using evaporating lotions, while Neagle, Dubois and others recommend free incision, the removal of the blood and compression. But Tanner adds, should suppuration supervene, early evacuation should be resorted to. Bedford recommends only evaporating lotions, such as aromatic spirits and sal ammoniac, and gentle compression by bandage or a closely fitting cap. Gassner, of Wurzburg, removes the extravasated blood with an aspirator under carbolized spray and follows the operation with antiseptic compresses, and asserts that cures follow more speedily this, than any other treatment. Dr. Kurz, of Tübingen, reports two cases of operative treatment in this accident. In the first case the tumor remaining the size of an egg the fourteenth day after birth; he gave exit to the blood by several incisions, after which compression was applied, and on the third day following the swelling had disappeared. In the second case the tumor was the size of an apple on the seventh day after birth, when he operated by incision and on the following day the tumor had disappeared. In the cases reported by Dr. Weber, the expectant plan of treatment was pursued, with application of lotions of tinct. arnica and diacetate of lead, recovery taking place from two to three weeks. But we may meet with cases less amenable to treatment as the following in my practice illustrates.

Mrs. H., primipara, aged about 20 years, well developed, medium in size and enjoying good health, was taken in labor on the 7th day of May, 1878, at midnight. A messenger arrived for me about 1 A. M., but being absent attending a similar case, my friend, Dr. O'Connell Fairhurst answered the call. On arrival he found the parts in a good condition, and os tincæ dilating rapidly and everything augured a speedy and safe delivery, an occurrence which took place in about two hours, without diffi-

culty in any way so far as he could observe. The day following that night a tumor on the side of the head was observed by the mother and nurse, at which time Dr. F. was consulted about it. He said to the father that he presumed that it demanded no treatment. But the tumor continuing to increase, on the fourth day after delivery I was called to see it, and found upon examination that it was a case of true cephalematoma neonatorum. The family then stated that the tumor had increased gradually from the time of its discovery, and that it was now twice its original size, it now being the size of an orange, and covered the whole of the left parietal bone, and reached downward to the ear, backward to the occiput, and forward to the coronal suture. It was tense; no great fluctuation was observed. The child nursed well, and seemed but little affected by the accident. But considering the increasing size, I deemed interference justifiable, and accordingly made an incision into the central part. Following the withdrawal of the lancet a dark stream of blood flowed slowly, which soon subsided into mere droppings. Not having time to wait and watch the result, I left a styptic solution to be applied if at any time there should be too great a flow, and gave instructions to use a compress by making a close-fitting cap, and report to me on the following day. When I left, the tumor had been reduced in size about one-third.

The father reported that the flow continued several hours, and until the blood changed to a red appearance, and the child seemed much prostrated, when it was stopped by the styptic and compress. The tumor was now half its original size. The child soon rallied from its prostration, and took the breast freely. The following lotion was ordered :

R Diacetate plumbi.....	3ij.	
Tinct arnica.....	3j.	
Aqua.....	6. j.	M.

To be constantly applied with a pledget of lint and a closely-fitting cap over the same, a bandage being impracticable. This treatment was persisted in, and the tumor gradually decreased in size, contracting from the circumference, and the fascia becoming adherent to the pericranium, as convalescence progressed, until the present, June 22d, six weeks from the accident, its circumference, now not exceeding a silver quarter dollar, and has ceased to give concern to its parents.

The points of interest in this, are: 1st, its rarity in our locality, this being the first case, as before stated, observed by the writer in the scope of his own practice, and observation of that of his professional brethren. 2d, that the incision did not bring that speedy relief so confidently spoken of by writers. 3d, that the bleeding, though only in a small, oozing stream, in a few hours induced the greatest prostration, which, without vigilance, might have proved fatal. 4th, that the extravasation of blood

did not stop, as is usually the case, but continued to flow up to the time of the operation, as was evidenced by the increasing size. 5th, that evacuation, stimulant and evaporating lotions and compression failed to produce a cure in twice the time allotted by writers to extreme cases.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

CHRONIC NASAL CATARRH.* By THOS. F. RUMBOLD, M. D., of St. Louis.

If examination of chronic catarrhal patients, aged from five to fifteen years, be made by natural light, it will be observed that the color of the mucous membrane of the nasal and pharyngo-nasal cavities is a little darker red than the healthy mucous membrane covering the anterior surface of the soft palate (which is usually healthy); the whole surface of these passages is smooth, and has a glazed appearance; the quantity of the muco-purulent secretion is seldom so great as to hide the color of the membrane. The color of the membrane of patients from fifteen to thirty years of age is dark red; in tobacco patients the color is purplish red. In a circle of half an inch in diameter, from two to five blood vessels will be plainly visible; generally they are nearly straight in their course. The whole surface will be found to be coated with muco-purulent secretion, but the greater amount of the secretion will be seen where the membrane forms creases, as on the under portion of the turbinated processes, and in the immediate neighborhood of the Eustachian tubes. Accumulations will also be found on the surfaces most exposed to the direct cur-

* No effort has been made in this paper to show why I should not use the anterior or posterior nasal syringe or the common nasal douche, or use the sponge or brush, introduced either behind the soft palate or through the anterior nares. Nor have I attempted to give my reasons for not using the usual astringent remedies, such as sulphate of copper, sulphate of zinc, nitrate of silver and the preparations of iron, etc. This would increase this paper to many times its present size. I have only endeavored to give the method as followed by me in my every day practice in the treatment of this very common complaint.

rent of air made by respiration, as on the superior turbinated processes, and the posterior wall of the pharynx. In a large majority of such cases the mucous membrane will be found to be hypertrophied and roughened. In patients of thirty years of age and upward, it will be observed that the mucous membrane has a granular appearance, and in places is much hypertrophied. In a circle of half an inch in diameter there will be seen from four to eight blood vessels, and instead of their being nearly straight, as they are in the middle class, they will be very tortuous, and irregular in their caliber, and from twenty to fifty times their normal diameter. With these patients, accumulations of inspissated secretion is hardly ever seen, while with the middle class, such accretions are abundant, and are frequently seen in a crusted condition, but with the youngest class mentioned the incrustations are seldom seen, yet a greater flow of muco-purulent secretion is usually observable in them than in the older classes.

I account for this peculiarity of the effect of the inflammatory process on the secretion of patients of different ages in this way: With the youngest class, the blood vessels are not nearly so large as they are in the middle class; consequently, while the blood flows with great rapidity through the inflamed parts, yet its volume is not sufficient to create the heat required to cause evaporation of the fluid portion of the muco-purulent secretion to the extent of producing inspissation. With the middle class, all conditions favorable to rapid inspissation are present; the blood vessels are large, the blood supply is nearly as large in proportion, so that in these patients the inflammatory process has assumed such a degree of activity that the heat drives off the liquid portion of the secretion, leaving it in a more or less thick or dry condition. With the oldest class, while the most of the blood vessels have become much larger than those of the middle class, the flow of blood through them is very much slower, as is evidenced by the tortuous position the vessels are compelled to assume. My observations have led me to believe that a vessel may be enlarged to a certain extent, and still allow a large (but not proportionately as large) increase of the flow of the blood through it, but so soon as it passes, in its progress of enlargement, a certain boundary (at present unknown to me), it rapidly loses its power to propel its contents; consequently, a larger amount of blood is driven into it from adjacent normal vessels than there is that leave it, thus still further enlarging it, and causing it to

become more tortuous. The effect of the diminution of the flow of blood is to lower the temperature. Accompanying this condition of the mucous membrane is a certain amount of local anæsthesia, another evidence of lowering of the normal temperature.

With the youngest class named, the subjective symptoms are seldom very painful. The obtuseness of their hearing; the difficulty in respiration through the nose, on account of the thickening of the nasal mucous membrane; the flow of secretions from the anterior nares, and the changed voice, caused by enlarged tonsils and partially closed nasal passages, are about all that is observable. The middle class usually have recurring pains in the upper portion of the nose and the top of the head, the back of the neck, the shoulders, and arms, and a difficulty of clearing the secretions from the head and throat in the morning; these are their most common symptoms. The subjective symptoms of the oldest class are usually less painful than those of the middle class, but in their place we have exhibitions of several mental phenomena that are almost never seen in the youngest class, and but seldom observed in the middle class. Named in the order in which I have observed their frequency, they are: Unusual forgetfulness, irritability and despondency; unaccountable fear or dread that something terrible is about to happen; inability to think consecutively; paralysis agitans of the muscles of the arm, the neck, the ear,* etc.; fear of mental derangement; and lastly, mental derangement itself. These symptoms do not always affect this class alone; some of them may be observed in the second class, and some that are usually observed in the second, may be seen in the first class.

Of course no effort has been made to give the total symptomatology of catarrh, but those symptoms only that are common with each class, and that will be sufficient to elucidate one of the objects of this paper, viz: that the changes that are made by a long continued inflammation, are too great and permanent to be eradicated in a few weeks, or a few months, or a few years, and in some cases even during their life.

The first thing to be done to either of these classes of patients, when they have so large a quantity of secretion on the mucous

* Tinnitus aurium is but a paralysis agitans of the laxator or tensor of tympani or the stapedius.

membrane that it hides its color, is the employment of a weak solution of carbolic acid, common table salt and glycerine, made in warm water, to cleanse the whole surface. This should be thrown into the cavities by means of a spray producer that throws a vertical stream acting on the pharyngo-nasal cavity; another that throws its stream into the posterior nares, and a third that throws its stream into the anterior nares. Should the fauces and the posterior wall of the pharynx be coated with muco-purulent secretion, these also ought to be cleansed by spray producers that act on their surfaces.

If these spray producers have not sufficient force to properly cleanse the parts, then the catheter nasal douche should be employed, as it is essential to successful treatment of the patient, that all of the catarrhal surfaces within reach should be made clean before the remedy is applied.

After the cleansing is completed, the application of vaseline $\bar{3}$ j and carbolic acid m. ij and glycerine $\bar{3}$ ij should be made by means of the spray producers already named, using with each instrument about a half of a dram of the mixture; this is repeated at each visit. The application of the spray through the anterior nares, will not reach the entire mucous surface of the posterior nares and pharyngo-nasal cavity, the anatomical formation of the turbinated processes preventing this.

The effect of these applications will be to mitigate, immediately, many of the prominent subjective symptoms. It is a very common occurrence for my patients to voluntarily state, immediately after an operation, that they feel relieved in the nasal passages and in the throat, and that respiration is carried on with less difficulty and more satisfaction. Should the secretion in the nasal passages be profuse, the patient should be requested to cleanse the cavities each morning by snuffing from the palm of the hand, or from a small sponge, warm salt water in which a small quantity of carbolic acid is dissolved.

At the second visit, the patient will usually announce that the secretions came away from the throat and nasal passages more freely than formerly; that he does not have as much headache, nor does he have the morning sickness that he usually experienced while clearing the throat. At the third or fourth visit the patient will report a continued improvement in all of the prominent subjective symptoms, especially the subsidence of pain.

On examination of the patient at this period, the only altera-

tion that will be observable, is that the secretion on the surface of the nasal and pharyngo-nasal cavities will be a little less in quantity than it was at the first visit; the blood vessels will be more plainly visible because there is a thinner coat of muco-purulent secretion covering them. After five or six treatments, the purulent character of the secretion usually disappears, and in some cases the amount of mucus is much lessened.

Upon inspection of the throat at about the tenth visit, the membrane will be found to be less swollen and not so dark red; the blood vessels may not be materially lessened in size, but they will be more plainly visible; all of the symptoms, objective as well as subjective, will be materially lessened.

The question may be asked: "As the patient has reported himself in an improved condition, the prominent symptoms having nearly all disappeared, what evidence does the inspection of these parts afford, that there is an improvement?" It is this: The muco-purulent secretion on a chronically inflamed mucous membrane adheres tenaciously, the surface seems to lack the ability to throw it off. For instance, if the inflammation in the pharyngo-nasal cavity is not decreasing, the muco-purulent secretion will adhere so tenaciously to the surface that it cannot be removed except by the aid of a brush, and even by this means it will not be accomplished without some difficulty, but if the case is improving, the secretions will flow off of themselves, and the surface will be seen to be nearly in a clean condition. After the tenth to the fifteenth treatment, the mucus is not visible at all, although it certainly is secreted. The reason of this is, that the mucous membrane has regained so much of its normal activity or tonicity, that it sheds off any redundancy of mucus. In this condition of the membrane, the secretion does not adhere to the surface, nor indeed, do I think that it could be made to adhere to it, even by the aid of a brush, which is quite a contrast to that observed at the first inspection. The degree of tenacity with which the mucus adheres, is a good indication of the degree of the chronicity of the inflammation, and also the degree of improvement in the case.

The number of treatments required by the youngest class, who have catarrh of median severity, varies with different individuals. A greater number is required by the light-haired and light-complexioned than by those of dark complexion. Usually the treatment should be given once a day, from two to four days—

then once every other day for from two to four weeks—then two times a week for the same length of time, and once a week for the same length of time. During the last three-fourths of this course, the symptoms which were prominent in either class should have entirely disappeared. During the latter half of this course, it is expected that there will be no muco-purulent secretion seen at any time, and that the quantity of mucus should have diminished to very nearly the normal quantity.

The middle class will require a greater number of treatments, than the youngest class, and the oldest a still greater number than either of the other classes. At the end of this course, the most of the patients belonging to the middle and oldest classes will feel as though they had never been afflicted by chronic catarrh, or ever would have it again. Yet if we examine the posterior nares, the pharyngo-nasal cavity, and the fauces, we will find that the mucous membrane is far from being in a normal condition. Its color will still be darker than it should be; the blood vessels, although reduced in size, will still be distinctly visible, and, with the oldest cases, still tortuous, all of which plainly indicate the existence of the chronic catarrhal condition. If this chronic catarrhal inflammation is present, why does not the patient complain of it? Wait awhile, and he will complain, even without aid of an additional cold, or without the least increase of inflammation. Time alone is all that is required. My explanation of this, is, that the rapid decrease of the size of the blood vessels, during the short time occupied in the local treatment, relieved the pressure on the nerves. This decrease of the size of the vessels relieves the pains, just as a partial relaxation of a pressure on the foot or other part of the body would relieve, for the time being, the pain which it first occasioned, but in time this pain will require another letting up of the pressure to again give relief. I may not be correct in my explanation, but my experience has proven to me, over and over again, that this is the course taken by chronic catarrhal inflammation in its progress towards recovery. This plainly indicates that, according to my views, the chronic catarrhal condition is not driven away in a *short* time, as indicated in many of our medical journals, or that it can be *driven* away at all, but that it may be so treated that it will *grow* away, i. e., it will recover its normal condition by the natural processes of repair. I ask, how is it possible to bring a chronic catarrhal mucous membrane to

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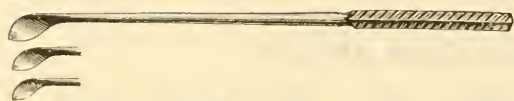
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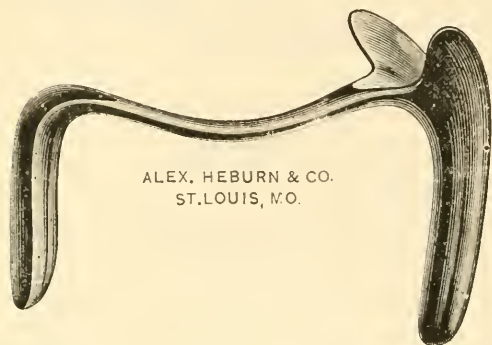
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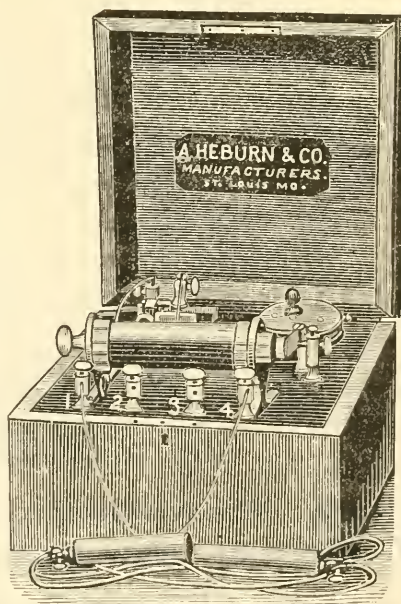
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its normal condition when we know it has, for years, been hypertrophied, and that many of the blood vessels are from twenty to forty times their normal diameter, and that many of the mucous glands must also have been changed in the same proportion? How is it possible to bring all this to a normal condition by a few weeks' application of any kind of a remedy?

After this course of treatment, the patient, even if the catarrhal inflammation has been of medium severity, will be liable to take cold on the next change of the season, be it either fall or spring, but usually a very few treatments will have the effect, in combination with the proper constitutional treatments, of driving away the cold, and in relieving the recurring catarrhal symptoms. The patient will then go on gradually improving, as he did before he had taken the cold. These fall and spring treatments will have to be repeated from three to five years with the youngest and middle classes, with the oldest class they will have to be repeated fall and spring, or fall or spring, during their lifetime. They should receive these few treatments once, or at most, twice a week, from two to six weeks. These fall and spring treatments will have the same beneficial effects, on the youngest and middle classes, that the first long course had in further reducing the size of the blood vessels and the hypertrophy of the membrane.

If we should examine a patient, under thirty years of age, even at the end of the third year of treatment, we will find that the blood vessels, although considerably reduced in size, are still plainly visible. The question may be asked: "Is this case cured, even if the patient reports to have had no catarrhal symptoms during the two years past, except at the change of the seasons? A negative answer must be given. The patient will not have entirely recovered, until all of the blood vessels will have been so reduced in size that they will not be visible to the unaided eye. Four or five neglected colds at succeeding changes of the season, for two or three years, is all that is required to bring about the first chronic condition. But if the patient, as already stated, is treated locally and constitutionally at these changes of the seasons, and thus prevents the colds from again enlarging the blood vessels, i. e., from again bringing on chronic catarrhal inflammation, the improvement will continue until it will have assumed so permanent a character, that the patient may pass over one or two or more of the seasons without incurring a cold or requiring a treatment. A case of chronic catarrh may be

considered cured when the blood vessels of the part have assumed the condition that they are in in the healthy mucous membrane. From this it may be surmised that I, at least, have but few catarrhal patients over thirty years of age, that have recovered entirely, yet I do lay claim to having a large number who, with the fall and spring treatments are enjoying entire immunity of all catarrhal symptoms. It is seen that according to my views, patients over thirty will require to be treated fall and spring during their lifetime, while those from ten to thirty years of age will require treatment, fall and spring, from three to five years. Children under ten may require only one or two years at most.

Of course the local treatment must be assisted by constitutional treatment. I usually give a prescription that combines a tonic, a diuretic and a laxative. Patients should be taught that it is of the greatest importance that they should take every precaution to avoid colds. In order to do this they should be instructed in the proper manner of protecting their bodies by means of suitable clothing. In the event that they should take a cold between the courses of treatment, they should be instructed as to the best method of relieving themselves as soon as possible. A cold should not be allowed to go away of itself, it should *always* be driven away.

TOBACCO. By T. B. SPALDING, M. D., of Troy, Ills.

MR. PRESIDENT AND BROTHERS OF THE MADISON COUNTY MEDICAL SOCIETY :—In a recent essay before this society, I considered the action of alcohol within the human system, and on this occasion I am pleased to respond to your courteous invitation with observations on the action of tobacco. These agents might be profitably presented as almost identical in action, and shown to be largely accessory to each other's sins ; but the *temperance* is waived for the *physiological* phase of the argument.

Of tobacco's origin, its introduction, its composition, its cost, the extent of its consumption, and the processes of its preparation, I purposely pass, to deal more directly with it in its physiological relations to the functions and forces of human life.

Eminent authority in every country and in every department of science, concur in classing tobacco among the narcotic poisons, than which, none are more deadly ; indeed, like Aaron's rod, it has secure within itself the most magical and worst of all its rivals. Nicotia, sulphuretted hydrogen, hydrocyanic acid ! What a den of deadliest poisons, all having their *habitat* in this colossal curse, termed tobacco !

A poison is declared to be "anything whose natural action is capable of producing a morbid, noxious and dangerous effect upon the organization of anything endowed with life." Thus we perceive the definition is the perfect picture of tobacco's action. Acquainted with this agent for over two hundred years, medical science, speaking with the tongue of every science, declares tobacco wholly innutritious, and further still, declares it nauseous ; not only that, but noxious ; and further yet, a repository of deadliest poisons. From this dictum there is no appeal ; in its truth medical men are forced, by their culture, to concur. But even then they dandle with Delila till shorn of strength, and science must still be summoned and held aloft for the healing of the nation. If tobacco is a poison, it ought to act as such, and it may be safely affirmed it *has no other action* ! no other use in medicine, than to depress vitality. Thus it nauseates, it paralyzes the nerve centers, producing relaxation of the muscular system, and produces such dreadful prostration that medical literature is full of warning, and abounds with reported cases of fatal poisoning by this agent. When medical science was in her cradle, and chloroform in the embrace of chaos, ere anaesthetics had come, as the olive leaf dove, to the ark of Esculapius, surgeons soothed their suffering patients with powerful potations of tobacco ; and thus they utterly prostrated the vital powers, relaxed the muscular system and then proceeded to reduce laxa-

tions! How direful must have been a patient's difficulty, if half so dreadful and distressing as the remedy.

It may be affirmed and demonstrated of tobacco, what is strikingly exceptional, namely, that it alone of all the vegetable kingdom possesses two active principles—the one an alkaloid and the other oil, and both the deadliest of poisons.

It has been urged in support of fashionable poisons, that because multitudes use them, therefore they can't be especially dangerous; but professional science and experience teach that there isn't an agent in the entire armory of toxicology, but the human system, by continued use, may at length be brought to tolerate it.

One-fifth grain of strychnia, or one grain of morphia, will destroy life, yet, by constant and long continued use, the blunted susceptibilities of the nerve centers may be made so to tolerate these and like poisons that eventually enough may be taken to destroy fifty men. It is demonstrated in the observation of every one that the use of noxious agents, especially tobacco, begets a morbid appetite which demands that continually more of it *may* and *must* be employed to produce the same impression.

Such we know are facts respecting what is noxious, but is not the case with what is nutritious. Medical science is not satisfied with *statements*, but sounds the depths in search of a *philosophy* for asserted facts, and she declares, in this regard, that nutritious agents create and renew nerve cells and structure, and endow them with the finest physiological sensibilities, while noxious agents disturb the conditions essential to their renewal, and so benumb and paralyze their normal sensibilities, and produce inevitably the pathological and characteristic condition of requiring continually more of the disturbing poison to produce the same impression. With these truths we enter the most fascinating field in nature to consider the conduct of this agent in the laboratory of life. Nowhere has Deity evinced such evidences of an intelligent, divine supernatural as here presented in the adaptation of means to ends—in the perfect play of affinities and forces ever operative in the construction and destruction, the waste and renewal, of this physical citadel, that enshrines an immortal soul. The whole sublime but sensitive train of transition involved in the conversion of solid food, first into fluidity, and under the auspices of vital force, transformed upward through intricate gradations till it attains the climax of its course in other solid forms, either of flesh, or bone, or brain, and then the oxidation of these and the evolution of heat and force, is the perfect process of what we term digestion. The brain is the depot of life's dynamics! It is the sun of the physiological system which, with its accessory centers and nerve cords, receive and transmit to the system, a force that propels the mightiest and minutest processes of physical life.

But the ability of these organs—as instruments of the mind—thus to receive and transmit this vital force, depends essentially

on their structural health and perfection. Paralyze or impair the perfection or structural integrity of the brain, disturb the subtle harmony of those changes of waste and renewal ever operative and essential to its structural perfection, and at once its power is impaired to forcibly and healthily perform its functions; and this adverse influence is precisely the action of tobacco as a depressing poison. The proposition is plain, the truth is self-evident and irresistible that with the nerve centers thus benumbed and blighted, and the vital force impaired, then every digestive process dependent on the harmonious action of vital force is weakened and discordant, and the physical and mental man is deranged to the extent that the physical machinery is injured.

The noxious influence of tobacco is more actively operative upon one class of persons than upon others. I may, therefore, for convenience, divide the victims of tobacco into two classes, assigning to the first class all those who do manual labor. These suffer least from fashionable poisons, because the deadening influence of noxious agents upon the nervous system is largely counteracted by physical toil, which strengthens the entire system and conduces to health; and thus it is that active poisons are thought to "kill slowly," and laboring people live long, apparently uninjured and practice poisonous indulgences. In all this great and glorious class of humanity, however, may be found the fruits of tobacco's use, in the form of cancer on the lips and tongue, dyspepsia, constipation and hemorrhoids. But let us consider the other class wherein are included ladies and gentlemen of wealth, of fashion and of leisure, those who live idle as well as those devoted to literary pursuits and purely sedentary occupations. Physicians, ministers and lawyers are of this class, and in all these we find paralysis very prevalent, and that diversified and interminable train of nervous derangements whose name is legion. With constitutions enfeebled by physical inactivity and sensibilities heightened by social and literary culture, consider for a moment the effect upon these highly nervous natures. To all of this priceless portion of humanity the use of tobacco is unmixed evil and rapidly ruinous.

Again, it is affirmed by eminent authority that tobacco is the most prolific, if not, indeed, the only source of delirium tremens.

First, the ancients were entirely unacquainted with these terrible terrors of the inebriate and the records beyond the discovery of tobacco (1560) reveal no case of *mania a potu*.

Second, the normal action of tobacco is the production of tremens, and the most frightful forms of delirium tremens are daily produced by the use of tobacco alone.

Third, it is rarely possible to find an inebriate who does not also use tobacco, and careful inquiry will confirm the statement that, with 90 per cent of such cases, the tobacco habit was first formed. Its influence deranged the nerve centers, an initial tremens was entailed upon the nervous system which suggested to

the morbid taste of the sufferer the soothing sedative action of alcohol, and thus the allied agents forge for each other and fasten more firmly the chains of the servilest slavery.

I have employed professional science to loosen the pillars of tobacco's position, and with authority and with argument have carefully criticised its action and influence on the functions and forces of organic life. Earnestly in this direction I invoke the sober judgment of scientific medicine and when you shall have ordered tobacco to abdicate, then only will it fall from popular use and favor and with that will end the ruin it has wrought.

In view of these truths, scientific and self-evident, in the name of science that classifies all knowledge, in the name of science that seeks the essential nature of things, in the name of science that truthfully interprets the teachings of nature, issue the edict of your eminent authority and drive from popular use and favor this poisonous plague, and when this is secured, a heavenly halo of light, an ineffable effulgence will open up over the poisonous wastes of the world, a broad and bright and beautiful pathway of crimson and of gold wherein garlanded angels will gladly gather proclaiming "peace on earth and good will toward men," and from highest heaven all over the earth shall you cause to be heralded God's emancipation proclamation to a world that is wasting its highest and holiest possibilities in the ruinous, depressing practice of popularized poisons.

INTER-STATE MEDICAL SOCIETY.

The first annual session of the Inter-State Medical Society convened at the Court House in Effingham, Illinois, on Monday evening, July 7th. The Society was called to order by Dr. John Lechrone, President of the meeting. The roll of officers and members was called and the following gentlemen responded: Drs. J. Lechrone, Effingham; W. L. Goodell, Effingham; W. H. Davis, Effingham; W. Thompson, Effingham; Owen Wright, Mason; J. N. Matthews, Mason; H. C. Finch, Watson; T. J. Dunn, Elliottstown; H. N. Drewry, Altamont. The minutes of the last meeting were read and approved. On call of the president the standing committees reported as follows: Dr. Goodell, on surgery, made a verbal statement of his experience in the treatment of "carbuncles." This subject was discussed by all present, and served to show what a vast difference there is in the treatment of this trouble by different surgeons.

Dr. Davis read a paper on the "Bowel Complaint of Children." This received due attention, and was followed by a paper from

Dr. Matthews on "Reflex Action." This paper was ably written and showed a great amount of thought in its preparation. It was discussed for over an hour by the members present; this paper will be again taken up at the next meeting, and it is expected that each member will offer something on this beautiful subject.

Dr. Drewry then read a paper on "Uremia." The doctor claims this to be the cause of "Bright's Disease," and not to be caused by it as most authors contend; the Society was nearly divided on this point.

The retiring President, J. Lecrone, delivered a short but interesting address, congratulating the Society on its rapid progress and confessing that he enjoyed the meetings better than those of any other society with which he was connected.

Drs. Phifer, of Shumway, and Holland, of Jackson, were admitted as new members.

The following committees and officers were elected for the ensuing year: Dr. Lecrone, President; Dr. W. H. Davis, Secretary and Treasurer; Drs. Wright, Goodell and Davis, publishing committee; Drs. Thompson, Matthews and Drewry, censors.

Adjourned to meet at 8 p. m.

Society called to order by President Lecrone. The following standing committees were then appointed:

Surgery—Dr. Wright.

Practical Medicine—Dr. Drewry.

Obstetrics—Dr. Thompson.

Drugs and Medicines—Dr. Davis.

Diseases of Females—Dr. Dunn.

Nervous Diseases—Dr. Matthews.

Puerperal Eclampsia—Dr. Phifer.

Dr. Goodell was appointed critic for the ensuing year. Dr. J. N. Matthews read an original poem entitled, "Our Profession," which was given to the publishing committee. The Society then adjourned to meet at Mason, Ill., the first Thursday in October, 1879.

J. LECRONE, President.

W. H. DAVIS, Secretary.

JERSEY COUNTY (ILL.) MEDICAL SOCIETY.

The Society met at the office of the City Drug Store, Jerseyville, on August 4th.

Dr. Reynolds, the President, being absent, Dr. Van Horne, the Vice President, assumed the chair.

Dr. Burknap, the Secretary, being absent, Dr. Reed was appointed Secretary *pro tem*.

Dr. Sumrall, from the special committee to wait upon the County Clerk, and investigate derelictions in reporting births, deaths, etc., reported a conference with the County Clerk, and an examination of the records, which elicited the fact that one return had been made and received fifteen days after the time prescribed by law, while in another instance, the date of death had been falsely inserted five days after the time of its actual occurrence, for the purpose of bringing the time of returning the report within the limit of the statute. The Doctor also reported from the special Committee on Legal Registration, stating that he had held a conference with Prosecuting Attorney Goodrich, who gave it as his opinion that it was necessary for recorded physicians of one county to register in neighboring counties where they may habitually practice.

On motion of Dr. Reed, the report was received and the committee discharged.

Dr. Shobe spoke derogatively of the practice apparently prevalent with some physicians, of procuring puffs, etc., in the secular prints, and suggested the propriety of passing a resolution on the subject. The following resolution was then passed:

Resolved, That it is the sense of this Society that when a member finds his name used by a newspaper in any such style as might lead to the inference that he was securing puffs, etc., he will ask the controllers of such paper through the paper, to please cease such publication.

Dr. Du-Hadway, from a committee on prosecution in special cases of violation of the registration act, reported conference with the Prosecuting Attorney, and stated that he had found more than the requisite witnesses—two to each overt act—and that he would proceed. He also reported one or two other cases of violation, after considering which, on motion of Dr. Sumrall, the Society appointed Drs. Du-Hadway, Van Horne and Shobe a standing committee to investigate and prosecute all violations of the registration act, and all irregularities under the same in and about Jerseyville, with special instruction to proceed at once in the prosecution of the particular cases before the Society.

It was then resolved that one member for each represented district be appointed an auxiliary committee on the enforcement of the registration act throughout the county, said auxiliary committee to coöperate with and through the Central Committee just appointed for Jerseyville.

The President appointed Drs. Williams for Otterville, Sumrall for Elsah, Reed for Fidelity, Francis for Delhi, Reynolds for Kane, Briggs for Newbern, and Veitch for Grafton.

On motion of Dr. Reed, the Auxiliary Committee was instructed to make up their cases and hand in their reports to the Central Committee at Jerseyville by two weeks from date, the 19th inst.

On motion of Dr. Shobe, it was resolved to publish the proceedings of this meeting, thus far, in the county papers.

JABORANDI AND PILOCARPIN.—Dr. Reed, from Special Committee on New Remedies, reported some experience with jaborandi and its alkaloid, pilocarpin. He first spoke of the physiological experiments with this drug by Drs. Martindale and Ringer, of London, and MM. Gubler and Robin, of Paris. The former gentlemen used the crude leaves, one of them taking at a draught a decoction from a dram of the leaves, afterwards swallowing the dregs. The effects were very decided, and supervened rapidly. Diaphoresis, so copious as to tax the imagination, was reported, followed by decided prostration with coma. The effects on the sight were noticeable, some objects being hardly distinguishable at a distance of a few feet that were formerly observable at a much greater distance. In twenty observations by Drs. Ringer and Gould, of London, reported in the *Lancet* in 1875, as being made upon eighteen adults, perspiration and salivation were generally profuse, commencing in about fifteen minutes after the administration of a sixty-grain dose. In one case salivation amounted to twenty-seven ounces. In all but one case the pulse was quickened from twelve to forty beats per minute. The average temperature fall was 9° F., with an average duration of a quarter of an hour. There was slight increase of bronchial secretion in some cases. In no instance were the bowels affected. In several cases sight was decidedly affected.

On the latter point Mr. John Tweedy reports his conclusions in the *Lancet* for January 5th, 1875, to the effect that the extract of jaborandi, applied to the conjunctiva, causes, 1st, contraction of the pupil; 2d, tension of the accommodative apparatus of the eye, with approximation of the nearest and farthest points of distinct vision; 3d, amblyoptic impairment of vision from paralytic influence upon the retina.

Dr. Reed had himself taken an ounce and a half of the fluid extract at a dose, with the effect of producing copious diaphoresis and salivation within twenty minutes from the time the nostrum was ingested. The stimulant effect upon the cutaneous an

salivary glands lasted nearly three-quarters of an hour, after which a feeling of decided prostration supervened. That was all. No sickness at the stomach nor influence upon the bowels was noted, while there was no perceptible effect upon the vision. Had never used jaborandi therapeutically, but had used its active principle, pilocarpin, in two cases. In one case there was some hydrothorax following a case of pleurisy. A sixteenth of a grain of pilocarpin was administered hypodermically. In less than ten minutes afterward copious perspiration had set in which kept up vigorously and persistently for more than half an hour, saturating not only the body garments, but the bed clothing too. The pulse fell nineteen beats per minute and considerable prostration ensued, from which the patient subsequently completely rallied. The next morning the exudation had nearly disappeared and by evening it was no longer discoverable. The other case was one of cedematous joints from chronic synovial rheumatism. The same dose was administered, producing about the same phenomena and causing the absorption of the effused liquid in the joints. Would use the remedy as an eliminative in dropsical cases and as a revulsant in the formative stage of pneumonia and other visceral inflammations.

Dr. Sumrall had used the fluid extract of jaborandi with success as a galactagogue. His experience had been confined to one case. The woman was the mother of three children, with neither of whom had she secreted any milk. She was delicate, had bad teeth, bad lungs and bad general appearance. As she approached the delivery of her fourth child her breasts bore no more evidences of giving milk than on previous occasions. There was neither filling of the breasts nor protrusion or discoloration of the nipples. An hour after the birth of the fourth child, he began giving her five drops of fluid extract jaborandi every three hours. The milk-fever reaction came on in forty hours and the secretion was thoroughly and healthfully established in forty-five hours. The remedy was kept up for fifteen days, and discontinued. The secretion has been active ever since, now fifteen months, although the patient had pneumonia last winter. Would state, however, that in the beginning, the breasts were repeatedly anointed with castor oil, in imitation of the Southern custom of applying a poultice of castor bean, for the purpose of forcing the secretion.

Dr. Du-Hadway, from the Committee on New Remedies, reported on *Ustilago Maidis* (corn ergot), stating that he had used it in every case in which ergot was demanded for several months last past, with the happiest results. He had also used it in some cases in which ergot was not called for, just to see what effect it had, if any. He had employed the fluid extract, in from ten to fifteen drop doses, and uniformly got the effects of the rye ergot in from twenty to twenty-five minutes. To produce the same effects with the rye ergot, required a larger quantity and longer

time—from a half to three-quarters of an hour. From experience in a number of parturient cases, would summarize his views as to the comparative merits of the two ergots by stating that the *ustilago maidis* required a smaller dose, was more prompt in its action, causing more normal conduct of the uterus, and greater regularity of contractions. Could not say as to whether these results were from the effects of the drug or from peculiar coincidences. Had used the remedy in two cases of hemorrhage with success equally as pronounced as he had ever experienced from the older variety. Had used it also in two cases of congestion of the spleen, with success in both instances. In one of the cases the spleen was very much enlarged when the administration of three drop doses fluid extract *ustilago maidis* every four hours was commenced. In a week the enlarged organ had reduced in size one-half, and in two weeks the abnormal enlargement had disappeared.

Dr. Williams said that Dr. Du-Hadway's use of the *ustilago maidis* in hemorrhage reminded him of another remedy for the same trouble. He alluded to *warm water in post partum bleeding*. The remedy had been brought to his attention through the writings of Emmett, and he had used it with gratifying results; indeed, he had made it the rule of his practice for several months. There are certain cases of abortion in which portions of the placenta were adherent, and were of necessity retained, and in which the tampon was formerly and is yet sometimes used, to prevent bleeding. While the bleeding was thus only indifferently controlled, there was always, within a few days, a most disagreeable odor arising from the decomposition of the retained portions of the placenta—an odor not more disagreeable than the conditions which gave rise to it were dangerous to the patient. All this was obviated by the use of the warm water, as follows: A fountain syringe, loaded with *water as hot as the patient can bear it*, is so arranged that the tube can be inserted into the vagina by the patient herself, who is arranged on her back, with her thighs elevated so that her hips are higher than her shoulders, and a bed-pan under her. The position is such that a portion of the water becomes residual in the vagina, and gravitates into the uterus, into which organ the nozzle of the syringe is not introduced. One or two syringefulls of water will suffice to control the hemorrhage, without ergot or other remedies usually resorted to, while the operation, repeated several times each day for several days, will prevent the formation of the disagreeable odor and its dangerous sequelæ.

Dr. Shobe inquired as to the *modus operandi* of the remedy, as he had always looked upon warmth as being relaxant to tissues, and hence promotive of hemorrhage.

Dr. Reed, replying, stated that the remedy had been a favorite one with his father, Prof. R. C. S. Reed, of Cincinnati, who had used it for a number of years in post partum capillary oozing,

and also in persistent menorrhagia. It was also used in surgery, and he remembered one case in particular—an amputation at the shoulder—in which the flap from the deltoid was but little else than a network of capillaries that had become enlarged by the disease in the parts. The bleeding was persistent and profuse; ligation was impracticable. Water, so hot as to be very uncomfortable to the hand of the operator, was applied, with the effect of instantly arresting and permanently controlling the bleeding. Thought this case afforded a good demonstration of the *modus operandi* of the remedy—occlusion of the bleeding orifices by contraction of the capillary walls and the surrounding tissue, as in the case mentioned, there was decided paling of the suffused flap.

Dr. Reed then reported a case of *suppurative enteritis* superinduced by congenital malformation of the intestines as follows: The child, two weeks old, manifested more or less abdominal distress from the time of birth; screaming out with pain whenever placed in the sitting posture or bent still further forward. There was marked constipation from the first, efforts at defecation being attended with decided pain. This was corrected and the stools, which were of the potter's clay description, assumed a more natural character under the use of small doses of mercury with chalk. These fits of constipation were recurrent, however, and demanded attention at periods of from one to two weeks. When the child was eight weeks old it was taken with a diarrhoea which was controlled by the usual remedies, but the pain and uneasiness about the bowels continued. The child nursed well and had the appearance of being well nourished, but it now began rapidly to lose flesh. The bowels operated more naturally now until the eleventh day of the illness, when shrieking cries and an almost convulsive effort of the child was followed immediately with appearances of ease and comfort, and in three-quarters of an hour with a copious discharge of pus and mucus from the bowels. There were thirteen similar discharges preceded and followed by the same conduct on the part of the patient. On the fourteenth day of illness the child died from exhaustion. As I had noticed fullness over the liver with tenderness, I had made up my mind to an hepatic abscess that by means of inflammatory adhesions had opened into the alimentary canal; the expulsive efforts on the part of the child being for the purpose of dislodging some mucus or fecal plug that might be occluding the orifice of exit. A post mortem examination was held thirteen hours after death. Dr. Harris, of Piasa, assisted me. We found the liver natural and so was the spleen. The only abnormal changes were confined to the intestines, the mucous membrane lining of which was in a state of suppuration. The ascending colon was firmly adherent to the exposed capsule of the right kidney and the posterior abdominal wall, by bands of tissue which, from the completeness of their organization, must have

been congenital and not of inflammatory formation. Indeed, there had been no abdominal swelling, tympanites or pyrexia, the temperature at no time exceeding 99.5°. The adhesion of the colon is sufficient to explain the pain on assuming the sitting posture and the cause of the inflammatory trouble, each stretching of the gut being a fresh aggravation.

Dr. Williams reported two interesting cases of *puerperal eclampsia from irritable os* as follows: Was called some time ago in consultation with Dr. Veitch, of Grafton, to see a woman whom the doctor had successfully delivered of a healthy child. There was, however, a fragment of placenta retained. This the doctor attempted to remove by introducing his finger into the uterus, but no sooner had he touched the os than the patient flew into a most violent paroxysm, from which she was rescued but with difficulty.

Some time subsequent I was called to attend another woman in her confinement. She had been under observation for some time, and from her appearances had been led to apprehend eclampsia. Her labor, however, progressed favorably until the waters broke and the head became fairly engaged in the os when she gave a sudden scream, her eyes becoming fixed and her muscles rigid. Was just prepared to resort to venesection when she regained consciousness and vigorously protested. As the spasm had apparently passed off I did not persist. Another pain, however, soon came on and brought with it a repetition of the phenomena, which suddenly and permanently subsided as the head was pushed through the os a few seconds later. The history of the two cases point to irritable os as the pathological condition of puerperal eclampsia.

Hysteria from a Torpid Liver.—Dr. Shobe was just reminded of convulsion in a pregnant female. Was called hastily to see her, and found her surrounded by anxious friends, who were apprehensive that death was impending. It took but a moment to perceive that the phenomena were of a hysterical character, and much aggravated. On inquiry, ascertained that she was about five months gone in pregnancy. Prescribed the usual antispasmodics, and left. Summoned the next day, and found her not better, but worse, if anything. Careful examination revealed an enlarged liver. The bowels were constipated. In the absence of anything else, gave a blue pill; it acted like a charm. The secretions were aroused, the bowels relaxed, and the spasm subsided. Was summoned two weeks afterwards, and found her in the same condition as before—spasm, enlarged liver, and constipated bowels. A blue pill did the work again. She now keeps a stock of blue pills on hand, and takes one whenever her bowels become languid and her discharges assume a potter's clay cast. The torpid liver acting in a reflex manner upon the over-sensitive gravid uterus, was the probable cause of the disturbance.

CHAS. A. L. REED, M. D., Secretary *pro tem*.

Clinical Reports from Private Practice.

DIPHTHERIA IN WHEELING. By HALLAY MCCOY, M. D., A. M.,
Wheeling, West Va.

Our city being now severely scourged by diphtheria, I desire, through the pages of your valuable JOURNAL, to give to the profession a mode of treatment which I have recently adopted and am still prescribing to the exclusion of almost everything else.

I have been engaged occasionally for the past forty-three years in the treatment of *pseudo-membranous* sore throat, or diphtheria, and during my long medical experience it has been my misfortune to be confronted, at times, by a malignant type of this disease, which, despite the diligent application of the best remedial means known to myself or my contemporaries, a large percentage of cases proved fatal; and the prevalency at this time of such a type of diphtheria in this city has induced me to give publicity to a mode of treatment which I have recently adopted, and which, under my observation, has been productive of encouraging and satisfactory results. My time and opportunities for testing the efficacy of this mode of treatment has not been sufficiently long, nor my cases sufficiently numerous, to establish a principle in practice; but deeming them of some importance, I hereby invite the attention of other observers to this mode of treatment, leaving it to more extended observation to either confirm or refute my opinion of its value. *Magna est veritas et prevalabit.*

My observations include thirty-six cases occurring in this city during the present visitation, ranging from the nursing babe of eleven months to the adult of twenty-two years of age, and including symptoms mild, severe, and of the utmost gravity, both constitutional and local. In some of my cases treatment was instituted on the first day of the attack, in some on the second and third, and one after the fifth day of the disease. I cannot say that in any case I was able to regulate the disease, but I think I was able very materially to shorten its duration and assist in piloting the patient through the breakers into the port of convalescence and ultimate recovery. My treatment, which I shall designate the *antiseptic treatment*, is both constitutional and local.

On being called to a case of diphtheria, I usually mop the throat very thoroughly with equal parts of a saturated solution of ferri per sulphas (Monsel's solution) and glycerine. This I repeat *pro re nata*; I also order a thin slice of fat pork to be kept applied externally. This I regard as superior to any other

external application and I have it continued till convalescence is established, or until pustulation is effected, and I direct the following constitutional antiseptic treatment :

R Acidum sulphurosum.....F. ℥vj.
 Syrup simp, qs. to make.....F. ℥ij.
 Of this I give F. ℥i every hour or two.

In this manner I have treated thirty-six cases without the loss of one, in the midst of an epidemic yielding a large percentage of fatal cases, and these, many of them, at least, treated by learned and experienced, and consequently skillful and competent practitioners.

GANGRENE OF SCROTUM FROM EXTRAVASATED URINE. By D. H. DICKINSON, M. D., of Deadwood, D. T.

Coners, aged 35, Irish, admitted to the hospital. He was suffering from retention of the urine, with the following history : Three months before his admission he applied for treatment to a neighboring physician for retention of water; after several attempts to introduce a catheter without success, he dismissed him with some diuretic, and instructions to take warm hip baths, which was done with some relief temporarily. From this time on he has been a great sufferer.

I found the following symptoms present: The pulse 130, temperature 105°; delirious, bowels constipated, tongue dry and brown, rigors occurring frequently; skin hot and moist, emitting a urinous odor; no appetite, with great thirst. The scrotum about as large as a cocoanut and black, showing no circulation. The right inguinal region contained an abscess which discharged about one pint of very offensive pus upon opening. I made several free incisions into the scrotum, giving exit to quite a large quantity of pus mixed with urine. The line of demarkation had commenced to form between the gangrenous mass and its attachments to the healthy skin, involving the entire scrotum.

Upon attempting to pass a No. 6 catheter (silver), I found obstructions that I was only able to pass with a fine filiform bougie (Gouley's); I ordered a mercurial cathartic, to be followed with beef tea, milk punch, iron and quinia in tonic doses.

Dec. 20th.—The temperature 103°, pulse 100, bowels open. He had rested well, was not delirious, but very weak, with rigors still present, urine escaping through openings in the scrotum, none passing through the natural channel. The symptoms of uræmic poisoning were very prominent. I at once commenced to dilate the stricture or strictures that I found to be

present, the original cause of all his suffering. Commencing again with filiform instrument, I succeeded in passing them, up to No. 4 before leaving. The abscess in groin discharging large quantities of fetid pus. Tonics still continued, with opiates to relieve pain.

Dec. 21st.—The pulse 100, temperature 101° , bowels constipated, tongue not so dry, skin moist, urinous odor still present, some nausea, appetite poor, has passed some water through the urethra. Scrotum partially detached on one side; had him put under chloroform for the purpose of removing the entire mass, which I did, leaving the testicles entirely bare. I then ordered the treatment continued as before.

Dec. 31st.—The pulse 90, temperature $98\frac{3}{4}^{\circ}$, bowels inclined to be constipated, tongue moist, skin normal, having lost its unpleasant odor, appetite better, sleeps well; I continued gradual dilatation until No. 16 catheter could be introduced easily, granulations springing up all over; testicles looking very healthy; abscess in inguinal region still discharging some pus of a laudable character; introduced grooved sound into urethra for guide, and then fastened the sides of fistulous opening, which was present in the membranous portion of urethra, with external opening along side of the septum of the scrotum, then introduced a No. 10 silver catheter and fastened it *in situ*.

Jan. 15th, 1879.—Find the patient still improving; testicles nearly covered with healthy skin; the abscess in groin completely healed over, but fistula still intact, owing to non-retention of catheter, which he stated caused him great pain. I had him again placed under chloroform and refreshed the walls of fistula, also slitting up several sinuses that I had found. I then cauterized the whole tract with nitrate of silver, and ordered the catheter to be introduced three times daily.

Feb. 20th.—Patient was discharged cured, with a complete, new scrotum. My reason for calling the attention of the profession to this case is, to show how far conservative surgery may be carried, often to the great benefit of our patients. I should have certainly removed the testicles in this case when I first operated, but considered from the symptoms that my patient would not long bother us, and would let him go intact as near as possible. I simply removed the gangrenous mass for cleanliness, but to my surprise he began to improve rapidly and I then determined from the condition of the parts, that with a little help in the way of skin grafting, I should be able to supply him with a new scrotum, the result of which we have seen.

After having several years experience in mining camps, where surgery is our principal practice, I am fully satisfied that we too often resort to the knife when a more conservative course would add largely to the comfort of our patients, and also, I believe, to our own professional reputation, although to say we amputated in given cases, sounds well for us in the ears of outsiders.

FORTY-EIGHT HOURS OF BLINDNESS AT THE PARTURIENT PERIOD.

By J. J. M. ANGEAR, of Fort Madison, Ia.

Late in the evening of the 20th day of March, '77, a young man from the country called upon me for a prescription for his brother's wife, stating that in the morning she became blind, and was no better when he left.

Being guided by the truth—that disturbance of vision at or near the time of parturition is the forerunner of puerperal convulsions—I inquired if she was pregnant. Being answered in the affirmative, I made further inquiries, and was informed that she was not expecting to be confined for some weeks. I refused to give a prescription, and stated that I must go and see her.

On my arrival I found the patient perfectly well, save the fact that she was so blind as to be unable to tell whether the lamps were lighted or not. She had been in this condition some twelve or fourteen hours.

By making a digital examination per vaginum, I found the uterus low in the pelvis, but no dilatation of the os, and a complete absence of pains, and no evidence of uterine contraction. Fearing convulsions, I decided to bring on contraction and hasten delivery, if possible. To this end, I ordered a hot setz bath, and kept her in it some fifteen or twenty minutes, occasionally adding hotter water to the bath. On returning her to bed I discovered the os dilated nearly as large as a dollar. The pains soon followed, and a fine, healthy child was born in due time.

At the expiration of twenty-four hours from the time I was called she could tell when the lamps were lighted, but could not discern objects until the expiration of another twelve hours; thus making at least forty-eight hours of blindness, with no other abnormal symptoms, after which she and her child did well.

Correspondence.

MEXICO, Mo., Sept. 2d, 1879.

EDITOR JOURNAL :—Among the many articles of great merit which have emanated from the pens of your contributors none, perhaps, have attracted the attention of as great a number of physicians, as the articles in the last two issues in regard to the use of the obstetric forceps.

Both sides of the question having been so elaborately, deliberately, conclusively, and ably presented by Dr. Maughs and Dr. Boisliniere on the one side, and Dr. Thomas Kennard on the other, that it is unquestionably true, that those who have been so averse to the use of forceps will be encouraged and influenced to use them when necessary and proper so to do, and those whose enthusiasm in their use, has outrun their judgment, will be persuaded to diminish the improper use of this valuable instrument. To our country practitioners such able productions upon subjects of such great interest and importance, can but be of incalculable value and benefit.

Without intending to convey the impression that the physicians of this vicinity are not keenly alive to every advancement in the profession, I will state that the views as expressed by Dr. Kennard have decidedly the greatest number of advocates here.

It would appear to the faculty here, who are over one hundred miles from the scene of this scientific warfare, that the St. Louis physicians had injustice done them, by either Dr. Boisliniere or Dr. Maughs, or both.

Dr. Boisliniere said: "The last report of the Health Department (of St. Louis) shows the number of children born dead, 467; immediately after birth, 100; in all 567 dead born infants. What does this mean? Was it not in the great majority of cases the result of ignorance and neglect? How many could have timely assistance saved? Perhaps nineteen out of twenty, because this is the proportion of vertex presentations to all others."

We might be lead to think from this statement that the majority of St. Louis physicians were either ignorant of their duty as accoucheurs or were culpably negligent in the execution of those duties. I would probably have attributed a large number of those deaths to the attendance, at birth, of ignorant midwives were it not that we are told by Dr. Boisliniere, "These

children were allowed to die because *Doctors* were influenced by the teachings of a retrograde midwifery."

Dr. Maughs, in his grand production, speaking of the death many years ago of her Royal Highness Princess Charlotte said, "Had her Royal Highness been an obscure pauper in the darkest alley in St. Louis and attended by any well informed first course student, she would have been delivered with the forceps on Tuesday, and had her attendant been a physician of any experience she would have been thus delivered on Monday night and her life and that of her child saved."

After reflecting upon this statement, together with the one just quoted from the remarks of Dr. Boisliniere, there is certainly room for the conclusion that the majority of the St. Louis physicians were unable to perform the duties pertaining to the office of an obstetrician as well as a first course student who was well informed, or that they possessed no experience whatever, or we would not have the mortality thus presented.

It is a great pity that such men as those engaged as leaders in this discussion, men of true courage, giant intellects, who stand pre-eminent in the profession, men of whom we all very justly feel proud, should so far forget themselves as to indulge in such epithets as "trusting owls, wise owls, indecisive fools," and the like, when having reference to the acts or words of some of our most distinguished and gifted predecessors. It is a shame that it has occurred, and in this connection do I concur most fully in the remarks made by Dr. Boisliniere when referring to Dr. Kennard's attacks upon the obstetrical profession.

While Dr. Kennard has emerged from this discussion all covered with honor and distinction, it is to be much regretted that the injection of this seeming personality has to any degree marred the value of his great production.

I was gratified to notice that Dr. Kennard laid deep stress upon the importance of that great practical truth which ought to be driven into the mind of every physician, viz., that in his action he should do that that is right and good in utter disregard for self. How our profession would be ennobled were all its members to strenuously work upon this principle. It constitutes the very essence of all that is great and good in a physician.

Let me have the JOURNAL as long as you have a St. Louis Medical Society.

Yours truly,

PINKNEY FRENCH.

Book Reviews.

DISEASES OF THE THROAT AND NASAL PASSAGES. A GUIDE TO THE DIAGNOSIS AND TREATMENT OF AFFECTIONS OF THE PHARYNX, ŒSOPHAGUS, TRACHEA, LARYNX AND NARES. By J. SOLIS COHEN, M. D., Lecturer on Laryngoscopy and Diseases of the Throat and Chest, in Jefferson Medical College, etc. Second edition, enlarged and revised; pp. 742. [New York: William Wood & Co. 1879.]

In presenting this large and carefully prepared work, the author has done much for the cause of specialism. The American members of the department to which he has devoted so much energy, are honored in that one of their number has produced a treatise second to none. European laryngologists will constantly refer to Dr. Cohen's book, not alone as an index of progress in the new world, but as the result of patient examination of the literature relating to his subject in all languages. To the general practitioner the chief value is that aside from scholarly research, our author speaks from large experience and does not overload the text with the burden of theory. So much additional labor has been given to this volume that it is almost—except in name—a new work rather than a second edition of one already known.

The special and relative conditions in disease of the throat form the subject of chapter I. Very briefly the author points out the liability of the mucous membrane of this region to inflammation, the tendency of inflammation to recur, the hygienic treatment necessary in, and the value of laryngoscopic examination of cases of throat lesion. In the next chapter the various methods of examination of the throat and nasal passages are presented. In this there is more than mere direction, valuable suggestions are offered concerning individual cases, and deductions made from the experience of others. The different ways of making examinations are well illustrated and carefully described.

"Sore throat" is the unpretentious title of the third chapter, which includes sections on "acute sore throat," "phlegmonous sore throat," "ulcerous sore throat," "the sore throats of the exanthemata" and "simple or common membranous sore throat." "Sore throat" is good in popular parlance, but in a classical work, such as this undoubtedly is, it does not merit a place in the nomenclature of diseases. There is a safe line midway be-

tween tiresome technicality and labored plainness. Without the space to criticize this chapter minutely, we can say that if the rest of the book were but blank pages, it would still be a valuable investment.

The section devoted to diphtheria is fully up to the times and is enhanced by well founded conclusions from personal experience. Our author is a champion for the "non-identity of croup and diphtheria." While we do not believe that his position is impregnable, there is no doubt but that he guards his cause well. The treatment recommended is such as would naturally follow the idea that chief among the important objects in treatment is "efficient sustenance of the patient and the prompt discharge of the morbid products as they accumulate." There is no specific.

Chronic sore throat in its various forms receives careful attention. In every degree chronic pharyngitis is a troublesome condition to treat successfully, though by perseverance most of these cases should do well. Cohen urges that persisting and care will often effect an entire cure and indicates many variations in treatment for such complications as frequently arise. We wish that our author had been more emphatic and less diffuse in his enumeration of therapeutical agents here. Between thirty and forty from first to last in this chapter, cannot but confuse him who, baffled by obstinate cases, turns to these pages for advice. We remark that our author all through his book, by aiming at completeness, depends much upon the judgment of his readers as to choice of remedies and methods of local application.

Passing over the chapters on special affections of the pharynx, tonsils and cesophagus, we come to one of the most important in the book—affections of the nasal passages. This is exhaustive and complete to date. Cohen adds his testimony to the evidence already adduced, as to the efficacy and harmlessness, when properly used, of Thudicum's nasal douche in cases of chronic catarrh, and the pages are replete with directions for treatment. The subjects of chronic catarrh are pre-eminently subjects of the various diatheses, and the manifestations of the disease are sometimes characteristic of the constitutional taint. The *materia medica* of this chapter is very full.

The author is certainly at home while discussing the subjects of acute and chronic laryngitis. In the former, though nothing new is added, yet there is seen on every page the result of labor and prudence.

Among the several sections given to the varieties of chronic laryngitis we notice "tubercular laryngitis." This is much more definite than "the chronic laryngitis of phthisis" is in the former edition. The author is careful to state that cases of laryngeal complication in phthisis are not all due to tubercularization, but are often catarrhal, and that "this laryngitis is amenable to treatment and is to be carefully distinguished from tubercular laryngitis, on the score of efficient prognosis and the liability of

indiscreetly crediting therapeutic measures with remedial powers that they do not possess." Though tracheotomy is referred to as a possible indication, it is "only justifiable to ward off asphyxia from œdema," etc., and rarely "for the mere purpose of setting the larynx at rest." Recent reports by Elsberg and Robinson throw some doubt upon this position. Though as it is yet a matter of experiment, Cohen has certainly a well-earned right to speak from experience. However, our author asserts that in some cases of syphilitic laryngitis this operation is "justifiable for the mere purpose of securing rest to the organ." The context harmonizes this seeming contradiction.

In a book so large as this one, eight pages is little enough in which to present so important a subject as syphilitic laryngitis. Yet the author has said all that is really pertinent and stopped. We like him all the more for it.

Cohen's contributions to the literature of morbid growths of the larynx have been numerous and valuable. The consideration of laryngeal neoplasms is up to the high standard elsewhere shown. We were not quite prepared, however, for the statement that we may "suspect a syphilitic origin in all cases of growth whenever there is no other assignable cause," even if it be "in a patient who has already suffered from syphilitic poisoning, especially if the remoter symptoms have been manifested in the throat."

Space forbids a minute mention of the many excellencies of Cohen's latest work. As a text book it is orthodox, as a book of reference it is very full, as a resumé of special science tempered by large personal experience, it is all that could be asked for. May we add that throughout the whole treatise is a spirit of fairness and candor. In these days of progression, when the known is encroaching so rapidly on the unknown *meum* is too often arrayed against *tuum*, and only recently a painful exhibition of impotent rage disfigured an otherwise handsome volume. Not so here. From cover to cover the author has naught but kind mention even when dissenting from opinions quoted. Both he and his book will be held in high esteem wherever the light of the laryngoscope is reflected.

The mechanical part is perfect in all its requirements, as would be expected of Wm. Wood & Co.,

WM. PORTER.

A CLINICAL TREATISE ON THE DISEASES OF THE NERVOUS SYSTEM.
By M. ROSENTHAL, Professor of Diseases of the Nervous System, at Vienna. [New York: Wm. Wood & Co. 1879.]

This is one of the series of twelve volumes published by the above named popular medical publishers.

The book, after having been translated into French by the

illustrious Charcot, is now presented to the profession in America by L. Putzel, M. D., Physician to the Class for Nervous Diseases, Bellevue Hospital, Out-door Department, and Pathologist to the Lunatic Asylum, Blackwell's Island.

Charcot presents the book "to its new circle of readers, mindful of the service it has rendered him in his teachings," and thinks "Dr. Rosenthal's work appears to justify, in great part at least, its title of *Clinical Treatise*." "The subject," he says, "could hardly have been arranged more harmoniously, nor could the pathological descriptions appear in more vivid and striking color."

The preface of Charcot bears date of September 15th, 1877, and the impress of a disposition to give the book a favorable introduction, while remaining non-committal as to any special excellencies. Thus this eminent authority says: "Dr. Rosenthal's work presents itself to our notice with strong claims to our esteem. It is called upon to fill a gap in our literature;" but he nowhere specifies what those claims are, or what gaps have been filled by it, except to say, "The portion devoted to treatment is not the least interesting. The author has long been known to have paid special attention to the study of medical electricity, and *useful* indications are found in his work, both for diagnosis and treatment, even to citizens of a country which numbers Duchenne, of Bologne, among its representatives. But we should pay especial attention to the rules laid down for the employment of hydro-therapeutic measures. * * * * * Hydro-therapeutics should enter more and more into the treatment of chronic diseases of the nervous system, in which it must be regarded as one of our most powerful resources."

The preface of Charcot has the appearance of "damning with faint praise," though such as the following might be regarded as intended for saving clauses: "The erudition displayed in Dr. Rosenthal's treatise does not recognize the boundaries of country. * * * We will find in this work, which is not deficient in original observations, a concise but complete exposé of important researches upon various questions in nervous pathology by L. Tuereck, Benedikt, Meynert and other authors of the Vienna school."

The book is good enough for the price, one dollar, but it is a little out of date, none of its references being later than 1874-'75-'76, and it is altogether too deficient for a complete treatise on the diseases of the nervous system to-day. While it is not an unsafe guide, so far as it goes, it does not go far enough, even for the practical purposes of the general practitioner of the present day.

The book makes no allusion to the recent remarkable progress in cerebral localization, and is totally eclipsed in this regard by the lately published lectures of Charcot, the writings of

Femir, and the more restricted but less recent work of Bastian, which appeared in 1875.

The author's description of locomotor ataxy is such as would probably enable the physician to recognize it in most instances, but it might put him on the wrong track in others. The characteristic jerking ataxic gait is not dwelt upon; on the contrary, the author says, "In walking, the foot does not disengage itself from the ground." The author seems not to have heard of the "tendon reflex" phenomenon, to which Erb and Westphal first and simultaneously called attention in this disease in 1874, in the *Archives for Psychiatry*.

The author's views are sound enough in regard to the causation of locomotor ataxia, but unwarrantedly meager for the present day in regard to its proper treatment, and too much significance is given, here as elsewhere throughout the book, to hydrotherapeutics. The author rides this hobby into such deep water that we fear he has drowned his horse, notwithstanding he says "Everything depends upon a cautious and circumspect application of the method." (P. 259.)

The subject of encephalic tumors is discussed very well in the light that shone upon the author at the time the chapter was written. The attempt, however, to make the "absence of physical disorder" a differential diagnostic sign of cerebellar tumors is neither clinically nor physiologically sustained, in view of the sympathetic and concomitant vascular disturbance in the cerebral lobe, when disease exists in the cerebellum. The disappearance of the psychic disorder under treatment addressed to the vaso-motor system, along with persistence of the occipital pain, is, however, a significant sign, which the author does not note, nor in fact any other that we know of.

Cerebral hyperemia is too meagerly treated. In explanation of the demonstrable variability of the cerebral circulation the author makes no reference to the perivascular spaces discovered by Robin in 1855, and so beautifully illustrated after Fothergill in McLane Hamilton's new book on nervous diseases. In fact, the book is quite as deficient in illustrations as it is in the number of subjects which should appropriately come under the attention of the neurologist.

The subject of cerebral tumors and general characteristics of cerebral diseases constitute the best chapters in the book. Nearly all the other subjects, hyperæmia and anæmia of the brain, especially, are entirely too briefly treated.

We have noted but a small portion of the defects of this book. It would be unfair to disparage it further when the price at which it is offered is borne in mind. But it cannot take the place of any of the books on the same subject now acceptable to English readers. No one who has either Zeimssen, or Althaus, or McLane Hamilton's treatise in his library will need this book. The novice in neurology who has none of these may read it profitably.

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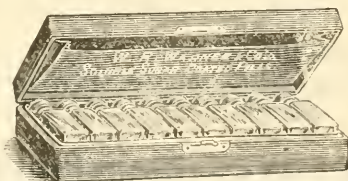
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If this book has been "called upon to fill a gap" in French literature, as M. Charcot, in his preface asserts, then we have read recent French neurological literature in vain. At all events, no such gap as the book may fill in France now, needs filling in this country.

The book was profitable reading six or seven years ago. Its historical references are still valuable, and it yet contains much useful matter, concisely presented and free from fanciful or untenable theories, but it were just as well had it been permitted to remain untranslated. The translation of a book, unlike that of Elijah of old, does not necessarily prolong or give new life.

The book, however, might still receive such additions to its text as to make it a fair companion for the now better works of the same kind before the American medical public. We discover no views in it that are absolutely heterodox or exploded. It is less objectionable on account of what is contained within its covers than because of what is there omitted, and the reader will be less disappointed in the kind than in the quantity and variety of its matter.

C. H. HUGHES.

CONCLUSIONS FROM THE STUDY OF ONE HUNDRED AND TWENTY-FIVE CASES OF WRITER'S CRAMP AND ALLIED AFFECTIONS. By Geo. M. BEARD, M. D., of New York. Reprinted from the *Medical Record*, March 15, 1879.

During the past few years Dr. Geo. M. Beard has been specially investigating the disease known as writer's cramp and affections allied to it.

These investigations have been pursued by the study of cases in his practice; by conversation and correspondence; by consultation and by circulars of inquiry extending to England, to Germany and Australia.

The following are his conclusions:

First, The cramp is but one of a large number of the symptoms of this disease, and no two cases are precisely alike. There are at least fifteen or twenty other symptoms.

The cramp is oftentimes one of the later symptoms, and bears much the same relation to the disease that the symptoms of the ataxic gait bears to the disease locomotor ataxy. In some cases there is no cramp from first to last, and in all cases the cramp is preceded or accompanied by other symptoms.

The list of symptoms is as follows: 1, Fatigue, exhaustion; 2, dull, aching pain; 3, nervous, irritable feeling, general nervousness; 4, trembling, unsteadiness; 5, cramp, spasm, jumping, twitching, rigidity, contraction of muscles (in some cases the pen is involuntarily hurled at a great distance, as across the room); 6, stiffness and tightness; 7, powerlessness, helplessness; 8, numbness, areas of anæsthesia, tingling; 9, neuralgia; 10, burn-

ing, stinging, dancing, prickly feeling; 11, soreness; 12, throbbing and swelling feeling; 13, thrilling, running, electric sensations; 14, tightly-bound feeling of wrist; 15, coldness; 16, abnormal sensitiveness to touch or cold, or mental influences; 17, disinclination to write; 18, slowness in writing; 19, itching; 20, perspiration; 21, temporary aphasia; 22, dryness of the joints; 23, swelling of the wrist and hand; 24, actual paralysis; 25, abnormal grasp of the fingers on the pen-holder or pencil—a very common symptom; tendency of the fingers, especially the middle one, to slip out of their places on the pen-holder, creating a desire by the sufferer to moisten them to prevent slipping; bearing down on the paper with unnatural or unusual pressure.

Many of the above symptoms extend to the forearm, arm, shoulder, neck, to the opposite arm and over the whole body. The term writer's cramp is the worst possible misnomer; the disease has been most imperfectly understood in medical literature. It is wise, however, to retain the term, for in the present state of our knowledge no term capable of including precisely and exhaustively all the phenomena of the disease can be suggested.

Second, in the other forms of professional cramp, as that of telegraphers, musicians (violinists, organists, pianists, harpists), sewing-women, painters, artists, dancers, hammer-palsy, and so forth, the cramp is but one of a number of symptoms, and by no means always the most important symptom; and, as in writer's cramp, there is frequently no cramp at all from the beginning to the end of the disease. There is no one symptom of the disease that can be said to be diagnostic.

Third, this disease is primarily a peripheral and local disease of the nerves and muscles; secondarily and rarely it becomes central and general, or it may result from various central lesions; and it may affect any point between the extreme periphery and the center."

This view of the pathology is a compromise between the old view that it was central, and the theory of Poore, of London, that it was purely peripheral. There is no question that in some exceptional cases the disease extends to the centers.

The detailed pathology of writer's cramp is complex; in some cases there is neuritis, which may affect a single nerve-branch or several nerve-branches, and may be restricted to the fingers and hand, or extend up the forearm and arm; then the muscles may be merely exhausted—chronically fatigued—or with a tendency to spasm and contracture. The worst phase of the disease that Dr. B. saw was in 1874, with Dr. Brodie, of Detroit; in that case the arm was drawn over to the back, and held firmly there by the contracted muscles; the patient was unable to use his hand for any purpose, and also suffered great pain.

"Fourth, this disease occurs mostly in those who are of strong, frequently of very strong, constitutions, and is quite rare in the nervous and delicate; and when it does occur in those

who are nervous, is easier relieved and cured than when it occurs in the strong.

This fact is not peculiar to writer's cramp, but applies to other nervous diseases, as impotence, muscular atrophy and ataxy. I see every day, cases of nervous exhaustion (neurasthenia) in its various forms, and quite rarely do I see writer's cramp in them; and when they do have this disease, it is mild and curable. I have successfully treated a number of these cases.

Fifth, this disease is less likely to occur in those who do original work than in routine workers. Writer's cramp has followed a single task of long copying.

Sixth, this disease, like all nervous diseases in this country, diminishes in frequency as we go South. In the Gulf States writer's cramp and maladies allied to it are very rare.

Seventh, writer's cramp is not an incurable disease. In the early and forming stage, especially, it responds to treatment quickly, and in many cases, permanently.

In all these cases the prognosis is better in nervous and delicate patients than in those who are phlegmatic and strong.

Lastly, the treatment of writer's cramp and affections allied to it consists:

1st. In the use of electricity locally applied. Both galvanic and faradic currents may be used—preferably the former.

2d. Electricity and hypodermic injections combined have made an epoch in the treatment of writer's cramp.

3d. The internal use of calabar bean, ergotine, iodoform, and in some cases of nerve food, as oil and fats. It is useless, in the majority of severe cases, to dally with mild remedies or ordinary tonics.

4th. *Massage*, or systematized kneading and manipulation of the muscles, with friction, and pinching, and pounding of the skin, and passive movements of the joints, large and small, as employed by Dr. Douglas Graham, of Boston.

5th. Dry heat and dry cold, by rubber bags containing hot water or ice. These may be used alternately.

6th. The actual cautery and very small blisters to the upper portion of the spine, or along the course of the affected nerves and muscles.

Among the hygienic devices for the relief and cure of writer's cramp are:

1st. A ring pen-holder, so as to relieve the thumb and fingers, a device by which one of his patients cured himself.

2d. The use of large pen-holders, so that the muscles may be less restricted; fastening a piece of sponge to the pen-holder, so as to relieve the pressure of the fingers, holding the pen between the different fingers, thus relieving the thumb and finger.

3d. The use of quills and very flexible pens, and with very broad points, so as to run easily like quills. The use of the lead pencil is also a very great relief.

4th. Frequently changing the pen and the pen-holder and style of pen, so as to change the mode of action of the muscle. Dipping the pen for ink doubtless saves many of us from writer's cramp.

5th. Changing the position in writing, as from sitting to standing, or holding the paper in the lap. These methods of relief are to be commended, especially for those who are just beginning to have symptoms of the disease, who are yet in the stage of exhaustion.

6th. The avoidance of faulty and painful methods of writing, and the study of easy, natural methods. A person who writes a cramped and stiff style, no matter though it be a legible one, is a fair subject for attack, especially if writing occupies most of the time.

7th. Writing with the left hand. Out of eighteen cases that tried this plan, three failed utterly, six were partially successful, and nine were completely successful.

8th. The use of various gymnastic and athletic exercises, as rowing, paddling, etc. In some cases the sufferers are unable to do many other kinds of work; carrying bundles or turning door knobs hurts them just as writing does; but such cases are exceptions."

A very good, but needlessly specific paper on this subject. *Ars longa vita brevis.*

The doctor has found a phenomenal form of this interesting affection, which he designates as *counting money cramp*—a form of the disorder not likely to become prevalent, unless perchance it be discovered among those who handle the money of corporations; in fact, his case was that of a lady Treasury Clerk in Washington. The Doctor does not note the general absence of professional cramp among women.

All writers on this subject in this country agree with Dr. Beard in regard to the curative value of electricity. All differ from him in regard to the necessity of rest. "Rest, and atropia; hypodermically," says Vance. "Rest and electricity," says McLane Hamilton. "The best results I have ever had," says Beard, "have been when my cases have kept right along with their occupation with the aid of mechanical appliances."

It will be encouraging to a great many who read after Dr. Beard to know that Scrivener's palsy is the penalty in most instances of legible writing. The surviving Horace Greeleys may become insane, but they will never get writer's cramp.

Dr. Beard has also found a sort of O'Leary idiot among chirographers, who tried, for a wager, to make a million of up and down strokes with a pen in a month or less time, with the result of a swelled wrist and hand; severe pain, and an attendant at hand to constantly apply cold water and lotions.

The paper is well worth reading, and extends over four pages of the *Medical Record*. We present only a synopsis of its chief

features, and for brevity's sake, have taken some liberties with the author's language and style. Dr. Beard deserves the thanks of the profession for his labors on the subject.

C. H. HUGHES.

A TREATISE ON HYGIENE AND PUBLIC HEALTH. Edited by Albert H. BUCK, M. D., American Editor of Ziemssen's Cyclopædia of the Practice of Medicine, etc. In two volumes 8vo, pp. 792 and 657. [New York: William Wood & Co. 1879.]

These two large volumes are edited by the American editor of Ziemssen's Cyclopædia. At the time that this cyclopædia was translated, it was thought advisable to omit that which related to the subject of public health, as Ziemssen's book treated the subject from a German standpoint, which was materially different from that which existed in this country. It was then believed by Dr. Buck and others that a treatise on private and public hygiene, written with special reference to the different climates, conditions of soil, habitations, modes of life and laws of the United States would meet with favor, not only among the subscribers of the Cyclopædia and physicians generally, but also among the educated classes. The contributors to volume I, are Drs. A. B. Ball and A. Jacobi, New York City; John S. Billings, Surgeon, U. S. A., Washington, D. C.; F. H. Brown, D. F. Lincoln and Prof. W. R. Nichols, of Boston, Mass.; Wm. H. Ford, A. V. Harlingen and J. Tyson, of Philadelphia, Pa.

The list of contributors to volume II, are Drs. B. McE. Emmett, Allan McL. Hamilton, Frederick R. Sturgis and Roger S. Tracy, of New York City; Thos. B. Curtis and D. F. Lincoln, Boston, Mass.; S. S. Herrick, New Orleans, La.; Thos. J. Turner, Washington, D. C.; S. O. Vander Poel, Albany, N. Y.; Rossiter W. Raymond, Ph. D. and Elwyn Waller, Ph. D., New York City; Chas. Smart, M. B., Ass't Surgeon United States Army, Fort Preble, Portland, Me.; Henry C. Sheaffer, Coal Editor of the *Miner's Journal*, Pottsville, Pa., and Stephen P. Sharples, S. B., chemist, Boston, Mass.

The introduction of this work is written by Dr. Billings, of Washington, and occupies seventy-four pages. Part I of volume I is taken up with individual hygiene, and the first thing treated is the Hygiene of Infancy. This part is written by Dr. Jacobi, a man well known to the profession. He has treated this work very thoroughly and almost exhaustively. He commences his subject with the new-born infant and ends it in speaking of the age of schooling. Dr. Tyson then takes up food and drink. With this he occupies sixty-six pages. Then follows Professor Nichols on drinking-water and public water supplies, occupying one hundred and seventeen pages. Dr. Ball then treats of physical exercise, occupying fifty-three pages. The care of the person, including baths, cosmetics, clothing, beds, the mouth and

hair, occupy thirty-nine pages. This is written by Dr. Harlingen and ends part I.

In part II the subjects of the soil and water, the atmosphere, and the general principles of hospital construction are treated by Drs. Wm. H. Ford, D. F. Lincoln and F. H. Brown, respectively.

Volume II is also divided into two parts. The Hygiene of Occupation is written by Dr. Tracy; the Hygiene of Camps by Chas. Smart, Assistant-Surgeon U. S. A.; the Hygiene of the Naval and Merchant Marine is written by Dr. T. J. Turner, Medical Director U. S. N.; the Hygiene of Coal Mines is written by Henry C. Sheaffer, Coal Editor of the *Miner's Journal*, Pottsville, Pa.; the Hygiene of Metal Mines by R. W. Raymond, Editor of the *Engineering and Mining Journal*, New York City. This ends part I, and all that is said on Hygiene.

Part II is taken up in treating of public health, including Infant Mortality; Vital Statistics; Adulteration of Food; Public Nuisances; Quarantine (with reference to seaport towns); Inland Quarantine; Small-pox and other Contagious Diseases; the Hygiene of Syphilis; Disinfectants; Village Sanitary Associations; and the very important subject of School Hygiene. Most of the subjects are treated exhaustively. One or two of them are too short for much benefit to be derived from them. That on the Hygiene of Syphilis heads this list. Dr. Lincoln's subject on School Hygiene, although not nearly as exhaustive as it should have been, is still a good one. If three-fourths of the space given to the Hygiene of Camps had been added to School Hygiene the work would have been still more valuable; but still these two volumes on "Hygiene" and "Public Health" are the very best in the language.

A MANUAL OF MIDWIFERY FOR MIDWIVES AND MEDICAL STUDENTS.

By FANCOURT BARNES, M. D., Aber., M. R. C. P., London.
[Henry C. Lea, Publisher: Phila. 1879.]

This is the title of a manual of about 200 pages which has been prepared by the author, and adapted to the wants of midwives. In so doing the writer has omitted any account of the more important obstetrical operations, confining himself to the mechanism and procedures incident to such cases of labor as are completed either naturally or by the more simple aids of the attendant.

To write a book of this kind and successfully steer between the two extremes of saying too much on the one hand and of saying too little on the other, is no easy task, and was one which evidently received serious consideration at the hands of the author, since he intimates in his preface that he had received assistance and advice from some of the ablest obstetricians in England. The old proverb that "a little knowledge is a dangerous thing," is painfully true of the midwife, and it is difficult to

draw the line which is to circumscribe her sphere of action. On the whole, Dr. Barnes has handled this delicate question with as good judgment as could reasonably be expected by excluding any account of the more important obstetrical operations from his work, whilst at the same time he has given the most admirable and lucid account of the mechanism of labor which it has ever been our pleasure to read. Hence, so far as it goes, this manual will prove exceedingly valuable to students and young practitioners seeking correct obstetrical information in a nutshell. We fear, however, that in this country we cannot expect for a long time to come, to have the average midwife educated up to even the modest standard set by Dr. Barnes. The midwife in our large cities is comparatively a modern institution, which has grown up with wonderful rapidity under the fostering influence of German society. Unfortunately, few of these will ever hear of Dr. Barnes or his manual, and so wise are they in their own conceit, that they would profit little by his admirable instructions in any event.

The frightful number of *still-born* children in our midst is largely due to the mismanagement and ignorance of midwives, who too often wait until the child's life is lost and the mother's threatened, before calling in a physician. And right here, we think, is the weak point in our author's production, for without intending to do so, he has left the impression that many cases of labor will terminate favorably when left to nature, which on every consideration of expediency should be aided artificially. A little clearer exposition of the symptoms and signs indicating a necessity for help, would render this little book as near perfection in its way, as anything could be.

W. COLES.

A PRACTICAL TREATISE ON SURGICAL DIAGNOSIS. Designed as a Manual for Practitioners and Students. By A. L. RANNEY, A. M., M. D., Adjunct Professor of Anatomy, and Lecturer on Minor Surgery in the Medical Department of the University of New York. 8vo.; pp. 386. [New York: William Wood & Co., 27 Great Jones street, 1879.]

Dr. Ranney publishes this book at the request of his private classes. He has purposely omitted all questions of etiology, pathology and treatment, and confined himself exclusively to surgical diagnosis. He has presented the symptoms of diseases in marked contrast, and the surgical diseases selected are those that are most liable to be confounded. He places the diseases to be differentiated, one on one side of the page, and the other on the other side, and so arranged as to allow the symptoms of each to be reviewed separately by reading from above downward, thus getting all the symptoms of each disease, or to be read by paragraphs across the page; while thus reading, the symptoms or points of contrast become prominent. At the completion of each

subject, the symptoms that are common to both are given at the foot of the page. As a text-book for students, it will aid their memory by presenting the symptoms of diseases in *marked contrast*; while to the practicing physician it may prove a book of easy reference, when questions of diagnosis arise leading towards doubt or error.

UROLOGICAL DICTIONARY. By JOHN KING, M. D. [Published by Moore, Wiltach & Co., Cincinnati, O.]

This unique work has been for some time on our table, delay to notice which has not been from want of appreciation of the work, nor of courtesy to the publishers, but from a variety of other circumstances.

The author has most faithfully developed his design as set forth on the title page, viz., "Explanation of Numerous Technical Terms; the Qualitative and Quantitative Methods Employed in Urinary Investigations; the Chemical Characters and Microscopical Appearances of the Normal and Abnormal Elements of Urine and their Clinical Indications."

Illustrations of the above, twenty-seven useful tables and thirty-nine wood cuts, are given, which add materially to the value of the work.

It is published in clear type, on good paper, and in other respects leaves nothing to be desired in mechanical execution.

We cannot too highly commend the "Dictionary" to all practitioners of medicine who desire to verify their claims to be thoroughly posted.

WM. DICKINSON.

MEMORANDA ON POISONS. By THOMAS HAWKES TANNER, M. D., F. L. S. Fourth American, from the last London Enlarged and Revised Edition. 24mo.; pp. 201. [Philadelphia: Lindsay & Blakiston, 1879.]

The author says, in his preface, that these Memoranda are intended to refresh the memory of the practitioner on a subject which is not brought under his notice so frequently as many other departments of medicine. They are especially adapted to show at a glance the treatment to be adopted in each particular instance of poisoning to which a medical man is liable to be summoned.

CLINICAL MEDICINE: A Systematic Treatise on the Diagnosis and Treatment of Diseases. Designed for the use of students and practitioners of medicine. By AUSTIN FLINT, M. D. 8vo.; pp. 795. [Philadelphia: Henry C. Lea, 1879.]

Dr. Flint was led to the preparation of this volume, so he says in his preface, by the belief that a work devoted to the diagnosis and treatment of diseases would be of aid to the medical student.

in his clinical studies, and useful as a book of reference to the practitioner. We notice that the part of his work devoted to the affections of the nervous system occupies the largest space. Within late years this department of medicine has been greatly extended by the activity of pathological and clinical research. We heartily recommend the work to medical students.

Editorial.

IN OUR next issue we will give the obituary notices of Dr. Frank G. Porter and Dr. Benjamin Linton.

OUR readers will notice in the prospectus, published in the JOURNAL Advertiser, that we have added four new names to the list of collaborators of the JOURNAL. Dr. H. C. Fairbrother will make reports on the recent progress of Physiology; Dr. Love, who had this department under his care during the last year, will take the department of Anatomy, which was rendered vacant by Dr. Boutwell's removal to the East. Dr. Y. H. Bond will report on the recent progress of Rectal Diseases, Dr. Le Grand Atwood on Pathological Anatomy and Dr. E. Montgomery on Materia Medica. We have selected these physicians because they are men of large practice and mature judgment, and because we know that they, being representative men in their departments, will receive the respectful attention of the profession and will make the JOURNAL still more profitable to its readers.

"THE ALIENIST AND NEUROLOGIST."

The above is the name of a quarterly journal to be edited by C. H. Hughes, M. D., of this city. The Dr. is very well known to our readers as an able and fluent writer. We bespeak for him the support of the profession and welcome the *Alienist and Neurologist* as a compeer. Dr. Hughes' quarterly will be issued about the first of January prox. Its aim will be to bring all real

progress in psychiatry and neurology concisely, prominently and satisfactorily before the general profession.

All communications should be addressed to C. H. Hughes, M. D., 1313 Chouteau Ave. St. Louis Mo.

THE St. Louis Medical Society enters upon its winter session with pleasing prospects. The attendance is flattering, and the promise is made that a number of valuable papers will be presented on succeeding nights. This Society has a membership of about one hundred and sixty, and meets each Saturday evening. Physicians visiting the city are always welcome.

WE ARE pleased to place the *Medical Herald* of Louisville, Ky., upon our exchange list. Friend Reynolds is over modest in not placing his name as editor upon the title page. The get-up of his paper is quite creditable and it is one of the best journals coming from that city. We notice that he has a department of the Eye, Ear and Throat. In this we expect to imitate him, commencing with next year's volume. We wish the *Medical Herald* success.

THE TRI-STATE MEDICAL SOCIETY.

We invite the attention of our readers to the programme of the Tri-State Medical Society. The number of papers to be read at this meeting is more than twice as large as at the previous one. During the past year we have kept this Society constantly before the profession, and we flatter ourselves that this has to a considerable extent contributed towards making what promises to be the largest assemblage of physicians in the Union, with the exception of the American Medical Association.

WITH this issue we will drop all of our delinquent subscribers for 1878, and those for 1879 will shortly follow. As the advertisements nearly cover the expenses of publishing the JOURNAL, and as, under the new postal laws, it costs us no more to send out sample copies than to regular subscribers, we prefer to do this, in order to do justice to our advertisers, than to continue sending to those who do not appreciate the JOURNAL enough to pay for it, after receiving it a sufficient length of time to judge of its worth.

Books and Pamphlets Received.

The Thermantidote: An Instrument for preventing the Evil Effects of Heat from Paquelin's Thermo-Cautery when Operating in Deep Cavities. By H. P. C. Wilson, M. D., Baltimore, Md. Reprint from transactions of the Medical and Chirurgical Faculty of Maryland. [Baltimore: *Maryland Medical Journal* Steam Printing House, No. 9 South Charles street; 1879.]

Transactions of the Pathological Society of Philadelphia. Volume VIII, containing the report of the proceedings from September, 1877, to July, 1878. Edited by J. Henry C. Sims, M. D. 8vo.; pp. 225. [Philadelphia: Printed for the Society, by J. B. Lippincott & Co., 1879.]

Lacerations of the Cervix Uteri. By A. Reeves Jackson, A. M., M. D. Read before the Chicago Medical Society, July 7th, 1879. Reprinted from the *Chicago Medical Journal and Examiner*, for August, 1879. [*Chicago Bulletin* Printing Co., 113 Madison street, 1879.]

The Medical Department of the Missouri University: An Inquiry as to Its Efficiency. Addressed to the Medical Profession and the Public generally. By Robert McNutt, M. D. 1879. We will take occasion to review this pamphlet and its subject at a future time.

Treatment of Yellow Fever. By Joseph Jones, M. D. Extracts from a Clinical Lecture delivered in the amphitheater of the Charity Hospital, January 29th, 1879. Reported for the New Orleans *Medical and Surgical Journal*.

Twenty-first Annual Announcement of the Chicago Medical College Department of the Northwestern University, corner Prairie avenue and Twenty-sixth street, Chicago, Ill., for the session of 1879-'80. [Chicago, 1879.]

Emotional Prodigality. By C. Fayette Taylor, M. D. Read before the New York Odontological Society, March 18, 1879. [Reprinted from the *Dental Cosmos*, July, 1879. Philadelphia: Samuel S. White, 1879.]

Transactions of the Medical Society of the State of Tennessee, at its Forty-sixth Annual Meeting, 1879; pp. 213. [Nashville, Tenn.: Printed at the *American* book and job rooms, 48 Church street, 1879.]

News Items.

ROLLA DISTRICT MEDICAL SOCIETY.

The Twelfth Semi-annual Meeting of the Rolla District Medical Society will convene in Rolla, Mo., November 25th, 1879, at 11 o'clock A. M., and continue in session two days.

J. E. THOMPSON, President.

M. GODBEY, Secretary.

THE District Medical Society of Central Illinois will meet at Pana, on Tuesday, October 28th. Dr. B. M. Griffith, of Springfield, President, and Dr. Wm. H. Cook, of Hillsboro, Secretary.

MADISON COUNTY (ILL.) MEDICAL SOCIETY.

THE Madison County Medical Society meets quarterly on the last Tuesdays of April, July, October and January.

TRI-STATE MEDICAL SOCIETY.

The Indiana, Illinois and Kentucky Tri-State Medical Society will convene in Evans' Hall, Evansville, Ind., at 10 o'clock A. M., Tuesday, November 4th, 1879.

ORDER OF BUSINESS.

1. Prayer, by Rev. C. B. H. Martin, D. D.
2. Address of Welcome, Judge Wm. F. Parrett.
3. Address of Welcome to Kentucky and Illinois members, by J. R. Weist, of Richmond, Ind.
Response.

2 P. M.

4. Report of Committee of Arrangements, Dr. A. M. Owen, Chairman, Evansville, Ind.
5. Reading Records of last meeting. Appointment of Committee on Credentials.
6. Committee on Publication, Drs. G. W. Burton, F. W. Beard and Thos. F. Rumbold.
7. Report of Treasurer. Report of Corresponding Secretary. Reception of members by invitation.
8. Call for volunteer papers.

EVENING, 7:30.

Annual address of the President. Public. Dr. J. A. Ireland, Louisville, Ky.

SECOND DAY, 9 A. M.

CHAIRMAN OF SECTIONS.

- Surgery—Dr. J. M. Keller, Hot Springs, Ark.
 Practice of Medicine—Dr. S. H. Charlton, Seymour, Ind.
 Obstetrics—Dr. J. W. Singleton, Paducah, Ky.
 Gynecology—Dr. H. B. Buck, Springfield, Ill.
 Pathology and Microscopy—Dr. J. L. Mathews, Springfield, Ill.
 State Medicine—Dr. Thad. M. Stevens, Indianapolis, Ind.

REGULAR PAPERS.

- Strabismus—Dr. John Green, St. Louis, Mo.
 Abuse of Coffee—Dr. J. S. Jewell, Chicago, Ill.
 New Treatment of Hip-joint Disease—Dr. Duncan Eve, Nashville, Tenn.
 Microscopy—Dr. Gardner, Bedford, Ind.

2 P. M.

- Color Blindness—Dr. Dudley S. Reynolds, Louisville, Ky.
 Diseases of the Sympathetic—Dr. Sarah Hackett Stevenson, Chicago, Ill.
 Obstetrics Professionally Criticized—Dr. J. W. Singleton, Paducah, Ky.
 The Coma in Cholera Infantum—Dr. Jacob Hayes, Bridgeport, Ill.
 Obstetric Forceps Use and Abuse—Dr. G. B. Walker, Evansville, Ind.
 Symptoms of Peri-Nephritic Abscess, with Cases—Dr. J. M. Holloway, Louisville, Ky.

EVENING, 7:30.

- Public Address—Dr. J. M. Keller, Hot Springs, Ark.

THIRD DAY, 9 A. M.

- Quacks—Dr. J. H. Rauch, Chicago, Ill.
 Surgery—Dr. J. B. Cook, Louisville, Ky.
 Paper—Dr. E. Williams, Cincinnati, O.
 Dressing Wounds—Dr. David Prince, Jacksonville, Ill.
 Surgical Treatment of Intestinal Obstructions—Dr. W. T. Briggs, Nashville, Tenn.
 Ovarian Tumor—Dr. Edw. Borek, St. Louis, Mo.
 Ophthalmology—Dr. J. L. Thompson, Indianapolis, Ind.

2 P. M.

- Plaster Dressing—Dr. Lewis A. Sayre, New York.
 Therapeutic and Hygienic Management of Consumptives—Dr. J. F. Hibberd, Richmond, Ind.

Local Poisons—Dr. H. C. Fairbrother, East St. Louis, Ill.

Management of Infants—Dr. J. B. Cook, Henderson, Ky.

Lithotomy vs. Lithotrity—Dr. A. M. Owen, Evansville, Ind.

Scarlatina—Dr. J. H. Charlton, Seymour, Ind.

Epidemic Scarlatina—Dr. J. W. Compton, Evansville, Ind.

Water as a Carrier of Disease—Dr. E. D. Laughlan, Orleans, Ind.

7:30 P. M.

Reception at Evans' Hall.

Public Address—Dr. E. H. Gregory, St. Louis.

FOURTH DAY, 9 A. M.

Sanity—Dr. J. D. Gatch, Lawrenceburg, Ind.

Mental Hygiene—Dr. J. W. Hervey, Indianapolis, Ind.

State Management of Insane—Dr. J. H. Helm, Peru, Ind.

Sanitary Effect of Drainage—Dr. Wm. Commons, Union City, Ind.

State Medicine, Quarantine and Isolation—Dr. Thad. M. Stevens, Indianapolis, Ind.

Sore Eyes—Dr. John E. Harper, Evansville, Ind.

Lesions of Abdominal Viscera—Dr. R. C. Thomas, Bowling Green, Ky.

Effects of Maternal Impressions Upon the Fœtus in Utero—Dr. W. B. Furman, Henderson, Ky.

Kentucky Lunatic Asylum—Dr. James Rodman, Louisville, Ky.

2 P. M.

Hypodermic Medicine in Hemorrhoids—Dr. Jas. H. Letcher, Henderson, Ky.

Pulmonary Consumption—Dr. S. E. Munford, Princeton, Ind.

Antiseptics—Dr. J. N. Rafferty, Palestine, Ill.

Epilepsy—Dr. Chas. D. Pearson, Indianapolis, Ind.

During each morning the Society will be in session as a body. If desirable, the sections will hold separate meetings in the afternoon.

Dr. G. W. BURTON, Secretary,
Mitchell, Ind.

RAILROAD AND STEAMBOAT ARRANGEMENTS.

Evansville and Boonville, one fare; Evansville and Terre Haute, one fare; Memphis, Paducah and Northern Railroad, one and one-fifth fare; Terre Haute and Chicago, one fare; Indianapolis, Cincinnati and Lafayette Railroad, one and one-fifth fare; Ohio and Mississippi, one and one-third fare; Vandalia, one fare; St. Louis and Southeastern, one fare; Louisville and Nashville, one fare; Evansville and Louisville Packet Co., one and one-third fare, (tickets good for ten days); Evansville and Cairo Packet Co., one fare; Evansville and Bowling Green, one fare.

Those coming from other States and points not reached by the above lines can get same rates. All delegates wishing to take advantage of these reduced rates, will procure from the Secretary, before leaving for Evansville, certificates of attendance.

The approaching session promises to be one of unusual interest, and as it is impossible to send programmes to every physician in good standing, it is hoped that you will take upon yourself the trouble of aiding one of the best working medical societies in the country by inviting all the best medical society men to come with you and take an active part in its proceedings. We expect from three to four hundred doctors to be present.

TENTH ANNUAL SESSION OF THE MEDICAL SOCIETY OF VIRGINIA.

The Society will convene in Sarepta Hall (No. 91 King st.), in the city of Alexandria, Va., at 7½ P. M., Tuesday, October 21st, 1879.

The following committees are also expected to report:

1. Advances in Anatomy and Physiology—Dr. J. E Chancellor, Charlottesville, Va.

2. Advances in Chemistry, Pharmacy, Materia Medica and Therapeutics—Dr. Edward T. Robinson, Richmond, Va.

3. Advances in Obstetrics and Diseases of Women and Children—Dr. George B. Jennings, Ruckersville, Greene Co., Va.

4. Advances in Surgery—Dr. W. Otway Owen, Lynchburg, Va.

5. Advances in Practice of Medicine—Dr. Wm. H. Bramblett, Newbern, Pulaski Co., Va.

6. Advances in Hygiene and Public Health—Dr. Samuel K. Jackson, Norfolk, Va.

Reports are also expected from special committees as follows:

Special Report on Hæmorrhagic Malarial Fever—Dr. Otis F. Manson, Richmond, Va.

On the Therapeutic Value of the Mineral Waters of Virginia—Dr. James B. McCaw, Richmond, Va., Chairman.

Committee to Petition the General Assembly of Virginia for Action in Relation to a National Board of Health—Dr. W. W. Parker, Richmond, Va.

The Executive Committee is informed of the probable attendance of several distinguished medical gentlemen of other States, from whom contributions of papers are expected.

The Executive Committee has also heard of several volunteer papers in preparation by Fellows of the Society, but as yet has the liberty of announcing the title of but two, namely, one on "Battley's Operation, with Reports of Two Cases," by Dr. Hunter McGuire, of Richmond, Va., and one on "Sutural Re-union of Divided Nerves," by Dr. William C. Dabney, of Charlottesville, Va.

METEOROLOGICAL OBSERVATIONS.

By A. WISLIZENUS, M. D.

The following observations of daily temperature in St. Louis are made with a MAXIMUM and MINIMUM thermometer (of Green, N. Y.). The daily minimum occurs generally in night, the maximum at p. m. The monthly mean of the daily minima and maxima added and divided by two, gives quite a reliable mean of the monthly temperature.

THERMOMETER, FAHRENHEIT—SEPTEMBER, 1879.

Day of Month.	Minimum.	Maximum.	Day of Month.	Minimum.	Maximum.
1	70.0	85.0	18	64.0	74.0
2	67.0	77.5	19	53.0	70.0
3	66.5	83.0	20	52.0	72.0
4	62.0	78.5	21	52.0	75.0
5	56.5	79.0	22	53.5	78.0
6	64.5	79.0	23	61.5	82.0
7	61.5	77.0	24	52.0	65.0
8	52.0	70.5	25	44.0	66.0
9	54.0	70.0	26	50.0	73.5
10	57.0	63.0	27	64.0	79.0
11	57.0	78.5	28	63.5	82.0
12	63.5	73.5	29	67.5	84.5
13	55.5	72.5	30	62.0	87.0
14	49.5	71.0	31		
15	55.5	76.0			
16	53.5	80.0	Means.....	58.0	76.0
17	57.5	78.5	Monthly Mean.....	67.0	

Quantity of rainfall, 1.19 inches.

MORTALITY REPORT.—CITY OF ST. LOUIS.

FROM AUGUST 17, 1879, TO SEPTEMBER 13, 1879, INCLUSIVE.

Septicæmia.....	2	Cholera Infantum.....	60	Hydrocephalus & Tubercular Meningitis.....	4	Apoplexy.....	4
Measles.....	2	Inanition, Want of Breast Milk, etc.....	15	Meningitis and Encephalitis.....	18	Cyanosis and Atelectasis.....	
Syphilis.....	2	Alcoholism.....	3	Other Diseases of the Brain and Nervous System.....	15	Premature & Prematural Birth.....	15
Scarlatina.....	3	Rheumatism and Gout.....	1	Cirrhosis of Liver and Hepatitis.....	14	Surgical Operat'ns	
Pyæmia.....	5	Cancer.....	5	Enteritis, Gastro-enteritis, Peritonitis, and Gastritis.....	12	Deaths by Suicide.....	6
Erysipelas.....	1	Phthisis Pulmon.....	52	Bright's Disease and Nephritis.....	5	Deaths by Accident.....	21
Diphtheria.....	9	Bronchitis.....	2	Other Diseases of Urinary Organs.....	3		
Membranous Croup.....	4	Senility.....	11	Recto-Pharyngeal Abscess.....			
Whooping Cough.....	2	Pneumonia.....	11				
Atheromatosis Ater.....	1	Heart Diseases.....	10				
Exhaust, in Labor.....	1	Other Diseases of Respir'y Organs.....	12				
Typhoid Fever.....	8	Entero-Colitis.....				Total Deaths from all Causes.....	459
Cerebro Spinal Fe.....	2	Marasmus—Tabes Mesenterica and Scrofula.....	39			Total Zymotic Diseases.....	162
Remittent, Intermittent, Typho-malarial, Congestive & Simple Contin'd Fevers.....	23	Convulsions.....	25			Total Constitutional Diseases.....	101
Puerperal Disease's.....	6	Aneurism.....				Total Local Diseases.....	141
Diarrhoeal.....	20					Total Develop'tal Diseases.....	28
						Deaths by Violence.....	27

CHAS. W. FRANCIS, *Health Commissioner.*

Trommer's Extract of Malt.

The rapidly increasing demand for our IMPROVED EXTRACT OF MALT, during the four years that it has been manufactured and offered to the medical profession in America, justifies the belief that in its production here we are meeting a generally felt want.

Long experience in manufacturing Malt Extract has enabled us to completely overcome the many difficulties attending its manufacture in large quantity; and we positively assure the profession that our Extract of Malt is not only perfectly pure and reliable, but that it will keep for years, in any climate, without fermenting or molding, and that its flavor actually improves by age. Our Extract is guaranteed to equal, in every respect, the best German make, while, by avoiding the expenses of importation, it is afforded at less than half the price of the foreign article.

The Malt from which it is made, is obtained by carefully malting the very best quality of selected Toronto Canada Barley. The Extract is prepared by an improved process, which prevents injury to its properties or flavor by excess of heat. **It represents the soluble constituents of Malt and Hops**, viz: Malt Sugar, Dextrine, Diastase, Resin and Bitter of Hops, Phosphates of Lime and Magnesia, and Alkaline Salts.

Attention is invited to the following analysis of this Extract, as given by S. H. Douglas, Professor of Chemistry, University of Michigan, Ann Arbor.

TROMMER EXTRACT OF MALT CO:—I enclose herewith my analysis of your Extract of Malt:

Malt Sugar, 46.1; Dextrine, Hop-bitter, Extractive Matter, 23.6; Albuminous Matter (Diastase), 2.469; Ash—Phosphates, 1.712; Alkalies, .377; Water, 25.7 Total, 99.958.

In comparing the above analysis with that of the Extract of Malt of the German Pharmacopoeia, as given by Hager, that has been so generally received by the profession, I find it to substantially agree with that article

Yours truly,

SILAS H. DOUGLAS,

Prof. of Analytical and Applied Chemistry.

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The dose of adults is from a dessert to a tablespoonful three times daily. It is best taken after meals, pure, or mixed with a glass of milk, or in water, wine, or any kind of spirituous liquor. Each bottle contains 1 1/2 lbs of the Extract.

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" " " " Cod Liver Oil.....	1.00
" " " " Cod Liver Oil and Iodide of Iron.....	1.00
" " " " Cod Liver Oil and Phosphorus.....	1.00
" " " " Hypophosphites.....	1.50
" " " " Iodides.....	1.50
" " " " Alteratives.....	1.50
" " " " Citrate of Iron and Quinia.....	1.50
" " " " Pepsin.....	1.50

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SEPTEMBER 6, 1879.

An Extraordinary Case of Starvation. By C. W. Stevens, M. D.

DR. STEVENS spoke as follows:—It will be remembered by members of the Society, perhaps, that Dr. Hughes some weeks before the vacation, reported some extraordinary cases of starvation in men and animals. I have obtained the report of a case which occurred while I was residing in the village of Fairfield, Herkimer County, New York. I was a boy at the time, about twelve years of age, and knew the young man that was the subject of the report, and witnessed the excitement that the case produced in the village and in the surrounding country. My brother in that village has obtained the facts, and has sent me a lecture delivered before the Kappa Alpha Phi Society of the College of Physicians and Surgeons of the Western District of New York, by Dr. James McNaughton, Professor of Anatomy and Physiology in the University of the State of New York, in which he discusses the case.

The Doctor then read the following extract from Professor McNaughton's address:

"In confirmation of the last proposition, that emaciation resulting from abstinence is more or less rapid according to the activity of the muscular and vascular systems, I shall relate a most extraordinary case which has recently occurred in this immediate vicinity. Taking it altogether, it is one of the most remarkable instances of prolonged abstinence of which we have any record. The subject of the narrative lived in the town of Fairfield, not above a mile from the place in which I have the honor of addressing this society. His father is a respectable farmer, to whom and to his wife and daughter, I am indebted for the particulars I am about to relate. Reuben Kelsey, the individual referred to, was, until three years ago, considered a young man of great promise, remarkable for the correctness of his conduct and his diligence in the prosecution of his studies. After having received the ordinary advantages of the academy at Fairfield, he entered on the study of medicine, and read in the office of Dr. Johnson. In the year 1825 he attended the lectures at this college. Although among so many it is not always possible to know what proficiency each makes, yet, from all I can gather, he must have at least equalled his companions in the progress he made in his studies. His health seemed good and there was nothing very peculiar in the operation of his mind. But in the course of the summer after the close of the session of

the college, his health began to decline and his mind seemed to have undergone a change. His spirits, which were never very buoyant, became more sedate and his thoughts seemed to dwell habitually on the subject of religion. He quitted Dr. Johnson's office and went home. From that time until his death he never left the vicinity of his father's house, even for a day. For the three years immediately preceding his death, he almost constantly kept his room, apparently engaged in meditation. His only companion was his Bible. He read nothing else, and all his thoughts seemed to be fixed upon another world. He shunned society, even that of the pious, but he seemed happy and full of hopes. To his family he was kind and attached, and with the exception of the deep cast of his devotional feelings, the equilibrium of his intellect did not seem, to his friends at least, to be materially disturbed.

Considering the little exercise he took, his general health, during the period, was better than could have been expected. He came to the table at every meal when called, and seemed not deficient in appetite. The only sickness of any consequence he experienced during his seclusion was an attack of cholera morbus, in the summer of 1828, from which he soon recovered and seemed to enjoy his wonted health until the latter end of May, 1829. At this time his friends began to notice that his appetite was failing. It continued to decline until about the beginning of July, when it seemed entirely to have disappeared. For some weeks he had eaten but very little, but on the second of July he declined eating altogether, assigning as a reason, that when it was the will of the Almighty that he should eat, he would be furnished with an appetite. It is not correct, as has been stated in the newspapers, that he refrained from eating in consequence of a vision warning him to do so, nor that he commenced his fast in imitation of our Saviour in the wilderness. It does not appear that he had set any definite time for his fast, nor very distinctly assigned his motive for fasting at all; indeed, it is more than probable that the great motive in the first instance was, that he felt no inclination to eat, and that after all desire for food had left him, he became convinced that there was no more merit in abstinence than in eating. Towards the close of his life, he told his sister that he had not experienced the least hunger except on the second day of his fast. For the first six weeks he went regularly to the well in the morning and washed his head and face and took a bowlful of water with him into the house; with this he used occasionally to wash his mouth and also used it for drink. His parents think that the quantity of water he took in twenty-four hours did not exceed, if it equalled, a pint. When he had fasted about a week his parents became alarmed and sent for medical aid. The physicians, fearing that death would speedily ensue if nothing was done, advised his friends to insist on his taking food, and if necessary, to make use

of compulsory measures to induce him to comply with their wishes. Attempts were accordingly made to force him to take nourishment and about a table spoonful of water gruel was, in consequence, swallowed. But it was found in vain to struggle with him, as neither fear or entreaty would avail. From that time until his dissolution, he was allowed to follow his inclination without control or constraint. On one occasion he went three days without taking even water, but this was probably more than he could persist in, as on the fourth morning he was observed to go to the well and to drink copiously and greedily. On the fourth day of his fast he replied to the expostulations of his friends, that he had not felt so well nor so strong, in two years as at that moment, consequently denied the necessity of taking food.

"For the first six weeks he walked out every day and sometimes spent a great part of the day in the woods. His walk was steady and firm and his friends even remarked that his step had an unusual elasticity. He shaved himself until about a week before his death, and was able to sit up in bed to the last day. His mental faculties did not seem to become impaired as his general strength declined, but, on the contrary, his mind was calm and his faculties collected to the end. His voice, as might have been expected, towards the last became feeble and low, but continued, nevertheless, distinct. Towards the close of his life he did not go into the fields, nor during the last week, even to the well, but still he was able to sit up and go about his room. During the first three weeks of his abstinence he fell away very fast but afterwards he did not seem to waste so sensibly; his color was blue and towards the last, blackish. His skin was cold and he complained of chilliness. His general appearance was so ghastly that children were frightened at the sight of him. Of this he seemed himself to be aware, for it was not uncommon to observe him covering his face when strangers were passing by. Prof. Willoughby visited him a few days before he died. He found his skin very cold, the respiration feeble and slow but otherwise natural; but the effluvia from the breath and the skin were extremely offensive. During the latter weeks of his life, the parents say that there was a considerable discharge of a foul, reddish matter from his lungs. To this, perhaps, the offensive smell referred to may be chiefly attributed. The pulse was regular, but slow and feeble, and what struck Prof. Willoughby as most remarkable, was the diminished size of the radial artery. Owing to the emaciation it could be distinctly felt and it seemed to be only like a thread, and much firmer than natural. The artery had contracted to accommodate itself to the diminished quantity of blood it had to convey, and its hardness may be attributed partly to this contraction and partly to the absorption of some of its elements, and the almost total suspension of nutrition. Alvine evacuations were rare. His mother thinks he

passed several weeks without any, but the secretion of urine was more regular. The voiding of this secretion was one of the last acts of his life. After the lapse of fifty-three days nature became exhausted and his spirit fled. His hopes continued bright to the last and he departed this life in full expectation of immortality.

"The body was examined by Dr. Johnson, the day after death. The viscera did not exhibit any very striking marks of disease. The stomach was not contracted as might have been expected, but was loose and flabby. The gall bladder was distended with dark, muddy looking bile. The mesentery, stomach and intestines were excessively thin and transparent, and there was no fat in the omentum; it looked like the arachnoid membrane of the brain. At the time of death Mr. Kelsey was 27 years of age.

"Such are the principal facts I have been able to gather respecting this case. I may, however, observe in conclusion that from a consideration of all the circumstances, from the known honesty of all the parties particularly mentioned, and the concurring testimony of friends and neighbors, there is not the smallest reason to suspect that in the case the least deception has been attempted, either by the unfortunate individual himself, or by any one connected with him.

"A very interesting question presents itself in regard to this case. How could life have been so long preserved under such circumstances? It is not possible, perhaps, in the present state of our knowledge to answer this question in a satisfactory manner. It is not usually supposed that water alone, affords any nourishment, at least to the higher animals, but this opinion is incorrect. Water is an ingredient in almost every one of the animal tissues, and a supply of it is as necessary for the preservation of life as that of solid aliment. Plants, it is well known, require little more than air and water to live and grow to a large size; the same is the case with many kinds of fish. It is, therefore, likely that air and water contribute materially towards nutrition, even in the human species. But these are not sufficient of themselves to support life for any great length of time when all functions are vigorously performed. But when they are feebly performed, the wheels of life are not so much worn out, consequently they require less repair. In such cases water and air, together with what can be absorbed from the system itself, may be sufficient to preserve life for a considerable period. In the case above related, life must have been supported by means of water and air, together with what were furnished by one part of his own system to repair other parts more essential to his being."

I have the fullest confidence in this statement being correct. Dr. McNaughton was one of the first men of his time in the profession of New York. My brother, who is a physician, obtained some other facts in regard to this family, which are interesting in connection with the subject of psychiatry. He gives some-

thing of the family history, showing some reasons why this man should take this course in life. My brother says:

"Dr. Mather has kindly given me this address in order that I may send it to you. The case could not be better authenticated. Reuben Kelsey had three brothers and two sisters. The family were bright people. One son committed suicide by cutting his throat; one other brother cut his throat, and died a year or two since. One sister committed suicide by laudanum, and her two sons are very eccentric. These facts show the family as having peculiar characteristics, Reuben being the only religious enthusiast among them."

DR. F. J. LUTZ:—Mr. Chairman, I would like to know what is the ordinary length of time that people can live without food. I have a case of a young lady about eighteen years old. During childhood, she suffered from inflammatory disease of the brain, the nature of which her people do not remember, but say she had spasms quite frequently. As a result of that infantile trouble, the girl has never been able to articulate very distinctly. About four weeks ago I was called to see her. She, at that time, presented the symptoms of hysterical paralysis. She swallowed medicine readily. Later the diaphragm assumed a state of spasmodic contraction; then the muscles of the thorax and neck became involved, and for twenty-one days she has not swallowed anything, not a drop of water. I have sat there half an hour at a time, trying to make her swallow, but she never accomplished it. Of course I instituted the use of nutritive enemata as soon as the difficulty in deglutition appeared, but I think I did not feed her that way more than five days when the rectum became exhausted; anything thrown into it was immediately expelled. Until yesterday evening I could not persuade the relatives to permit me to use a stomach pump, but then they consented. I used the siphon stomach pump, which you are all familiar with—an instrument introduced by Dr. Hodgen. By that I introduced an ounce of brandy and five ounces of milk yesterday evening. It had the effect of making her restless all night, and producing a tendency to vomit, but she did not do so. This morning I introduced beef tea and milk. This evening I think I introduced about four ounces of milk and three ounces of beef tea. I do not say anything about the therapeutic treatment during this time, because I want to relate it in connection with the absence of food. But what seemed remarkable to me all along, was that she was not emaciated very much, not perceptibly, to me; the relatives think she is becoming thinner.

DR. ADOLPHUS GREEN said that Dr. McNaughton had tried to explain, in his address, how plants live on air and water; but they could not be compared with human beings, because plants have powers that we do not have. Cases of persons who have

been found starving, had lived, he thought, fourteen days without anything to eat. Persons who have fever, which is a consuming process, have lived for many days, although they could hardly take any food. The young man alluded to was not left still doing nothing, like a patient in bed; he was moving about; he was alone part of the time.

DR. STEVENS:—This case from any point of view is an extremely interesting one, and differs in many prominent features from any of which I have heard or read.

The question has been asked by a member, "What is the average number of days that the human body can endure abstinence from food, and what explanation have we for exceptional cases in which the period is so remarkably protracted?" Statistics might readily answer the first part of this interrogatory, but the latter is one which, in my opinion, has not received any special attention. The circumstances and conditions in or under which individuals are subjected to this violation of nature's demand are exceedingly various. Man is sometimes forced into abstinence from food, as the result of misfortune, accident or punishment; sometimes by disease, such as constriction or contraction of the œsophagus; again, one abstains in consequence of delusion, frenzy or monomania. Thus we will see that in the investigation of these questions a wide range of physical and psychical states is to be considered.

The case of Mr. Kelsey being one of the most remarkable, certainly, as to time, fifty-three days, and the facts so well authenticated, I regard as one upon which we may base some conclusions as to why the life of one or more individuals may be prolonged to twice, or even five times the average period.

He lived the quiet life of a farmer, except the short time spent as a medical student; his surroundings forbid the idea of over-indulgence in vicious habits or excesses of any kind; he was strictly and conscientiously moral and religious. How different was his case from the majority of those of which we have knowledge or record. May we not say that in a hundred we would not find a similar case. He abstained from food, not from any conditions forced upon him, but prompted, as he conceived, by a sense of duty; it was not an accident, like being cast away at sea, nor like a case of disease; by reaching forth his hand at any time, he could obtain food. It was not even like many or most of those instances originating from disordered mind. In nearly all of such cases there is a powerful disturbance of the emotions, especially the passions of fear, hate, revenge, etc.; in many, melancholia leads to a desire to commit suicide by starvation. Here is a man in good physical condition, who, in consequence, probably, of some inborn infirmity, or in other words, as a consequence of delusion, conceives it to be his duty to take food only under the special command of the Al-

mighty. "God would tell him when he must eat." He had an approving conscience; an unwavering faith sustaining and strengthening him; he was happy, cheerful, contented, and in perfect harmony with himself and all persons and things about him. Contrast all these states and relations with one where remorse, disappointment or revenge are factors, or when by disease or some casualty or direful fate, one is deprived of aliment. The functions of the heart, liver, stomach, brain and muscles go on as long as food—the fuel of life—is supplied, and when the supply is diminished or fails, nature falls back upon the fuel stored away among the tissues, and life will continue just as long as this may last. In the case of this "excellent young man," there was everything in favor of his coming as near to solving the problem of living without eating, as could be conjectured; his mind in all its parts or faculties was in a placid, inactive state; there was no waste by cell disintegration in frenzy, mania or madness, no torturing fear of death to exhaust his vital force. Here, in what I have thus imperfectly indicated, would be found, if fully elaborated and applied, the principal or substantial reasons why this individual lived so much longer than the majority of those who have died from this cause. I am prepared to believe that the mental condition of the person who either by choice or necessity undergoes the ordeal of starvation, determines the length of time that life will last. I am also prepared to believe that to sustain and carry on our mental life in the exercise of thinking, reasoning and calculating, in the constant play of the passions or emotions, we require more of the pabulum of life than do all the merely physical functions of life combined.

DR. HURT:—It seems to me that the question propounded by Dr. Lutz when he reported his case was not satisfactorily answered by any one. The question was: "How long can a person live without food?" I do not know that there is any specified length of time to which a person may go without food, and to which all people can go, ere their life must terminate. Observation teaches that one person in excellent health may starve to death earlier than another person in the same condition of health. Why is this? It is a physiological as well as a pathological question. I am inclined to believe that a person who is in feeble health, in some respects will live longer without food than another who is in vigorous health. A person whose digestive organs are feeble, and whose stomach does not secrete a very large amount of the gastric fluid, or does not secrete a very highly concentrated gastric fluid, would probably have better chances for a continuance of life in the absence of food than another whose stomach is capable of digesting with great vigor. That person whose physical condition is such as not to excite into activity what we may call the gustatory faculty, would perhaps escape any injury to his stomach by the secretion of the digestive fluid

in the absence of food. We are taught to believe that our nervous system is divided up, and each division has special duties to perform; hence we conclude that there is a portion of the brain devoted to the sense of hunger, and that the normal sense of hunger is not excited without the normal condition of this portion of the brain. If that organ should lose its function, there would be no irritation of the stomach of that individual; consequently no gastritis. He would die purely of starvation, while another individual perhaps would not live more than five or six or eight days, dying of gastritis. The disease might be limited to the stomach or extend to the brain.

DR. KINGSLEY:—In regard to this matter, I believe it has been estimated that ordinarily a person may live about ten days without food or water. I believe persons shipwrecked have been able to live ten days without food or water. If there is water supplied, life is prolonged. I think there is a case of a man in a coal mine living twenty-one days without anything but water. It has been remarked this evening that there is a difference of capacity in individuals. We have remarked that persons suffering from nervous disease have lived a considerable time without much emaciation, and without taking food. That has been observed in insane asylums. I think there is a case on record of a man living about forty days without taking anything except the juice of oranges and water. Dr. Hurt spoke of the desire for food in cases of starvation. The desire lasts only a short time; perhaps does not exceed five days. In such cases the fat of the entire body is consumed before the other tissues.

In the article Dr. Stevens read the lecturer alluded to an offensive odor; there was a fluid matter escaping from the lungs, and it was presumed it was due to that. In all cases of persons starved to death there is an offensive odor; the entire excretion from the skin is offensive. In relation to the effect produced on the nervous system, I remember one lady who did not take food for several days. I administered brandy; she had never taken brandy in her life. In twenty-four hours she took a pint of expensive brandy without any apparent effect whatever, without even flushing. In another similar case I gave to a lady patient who had never used stimulants of any sort, a pint of whisky a day for three weeks. At no time was there any unpleasant influence of the whisky. I may say, in fact, that she subsisted in those three weeks on whisky, with a very little beef tea. I allude to this matter to show the influence exerted on the nervous system. It may be that the wheels of nature are held still; the processes of waste and repair may be retarded, and life prolonged.

Sciatica.

DR. LUTZ:—The treatment of sciatica has been discussed quite frequently, and various methods have been tried, with varied success. I had a case the other day, of an Irishman, a very tall man, of strong build, a miner by occupation. He had been under the care of Dr. Morton, I think, of the Philadelphia Hospital. He had been blistered and cauterized. I think he also underwent treatment by electricity, subcutaneous injections of morphia and atropia. Everything had been tried on him, and he was ready to have his leg cut off. I proposed to stretch the sciatic nerve, to which he readily consented. Since Nussbaum introduced nerve-stretching, it has been tried for a great variety of nervous diseases. The theory, I imagine, is this: We know that any peripheral irritation may produce profound central lesions. So it is supposed that by producing a strong impression upon the nerve trunk, some alteration in the nerve center will be produced, which will modify the unhealthy action which causes pain.

I did not promise myself much from the operation. Dr. Wesseler chloroformed the patient. I cut down upon the nerve, raised it from its position, and stretched it. The wound healed, and for the first four or five days the man had no pain. Afterwards it returned, with some severity. I think if the man will come back, perhaps another stretching will do some good. It was the first time I had performed the operation, and I knew no one who had experience in that particular mode of treatment. Perhaps if I had stretched it more severely, the result would have been better. I mention the case as showing a mode of treatment which I tried unsuccessfully.

DR. WILLIAMS said that Dr. C. G. Comegys, of Cincinnati, had given hypodermic injections of chloroform in such cases, and claimed to have cured very stubborn cases. He thought the Doctor used somewhere near a dram at a time, injected over the region of the sciatic nerve, just as morphia was injected. He had recently seen, in the Cincinnati *Lancet and Clinic*, a report of a case in which the treatment was the hypodermic use of chloroform.

DR. KINGSLEY said he did not see that chloroform would be of benefit, unless it produced inflammation about the nerve; it might do good that way.

DR. WILLIAMS:—Dr. Comegys, I think, claims specific action; not in the way of inflammation. There is a physician in Illinois who had suffered so severely from sciatica that he was disabled, and he was at a loss what to do to relieve himself of the pain. He wrote to Dr. Comegys, who directed him how to treat himself.

He followed the advice, and in four or five days went back to his professional work. Dr. Comegys reports some five or six cases which he cured, not temporarily, but permanently, having been under observation for months, or even years, without any return of the trouble.

DR. WESSELER said he knew of a case that had not been cured. The man had been under treatment eight months, and he states that chloral has been injected under the skin. It relieves him for the time being, but it is only temporary.

[Dr. Comegy's treatment is the injection hypodermically of ether, not chloroform. He reports the treatment first in the number for July 6th, 1878, *Cincinnati Lancet and Clinic*, the case having occurred the previous winter. The case alluded to by Dr. Williams is reported in the number for January 4th, 1879, of the same journal. Dr. Robert Bartholow, of Cincinnati, now of Philadelphia, proposed "deep injections" of chloroform in the treatment of tic douloureux, sciatica, etc. He treated his first case by this method some time during the year 1873 or '74. E. M. N.]

SATURDAY, SEPT. 13, 1879.

DR. C. SPINZIG read a paper on "The Laws and Facts Demonstrating that Physical Influences are the Causes of Epidemic Diseases with special reference to the Yellow Fever Epidemic in the Mississippi Valley in 1873 and 1878, and that of Savannah, Ga., in 1876."

The doctor denies the existence of any specific poison liable to be transported from one locality to another as the cause of epidemics and believes that quarantine restrictions and the use of disinfectants are utterly unavailing.

He says: "The surrounding atmospheric or climatological influences can, on general principles, alone be admitted as the chief cause *cirorum et morborum*. In their shaded potentiality of reaction is to be found the origin of typical forms, representative of which in the regressive metamorphoses, and under the essential conditions, yellow fever is found to be one. * * * It may be proper at once to submit the etiological law which is universal; in the normal state of reaction it is biological and under variations morbid. These truths have been verified by direct observations. We therefore translate from Dr. H. C. Lombard's *Climatologie Médicale*, vol. 1, p. 221, the following sketch of meteorological influences on human physiological processes:

"Cold augments the exhalation of carbonic acid, whilst heat exercises an inverse influence. Cold diminishes the exhalation

of azote (nitrogen) and increases its absorption, whilst there is more of it exhaled when the temperature is elevated. The moisture of the air (dew and rainfall) acts in a similar way to cold, and dryness similar to heat.

"Further, high barometrical pressure exercises an influence corresponding with that of cold, that is to say, it causes an increase of the absorption of oxygen and augments the exhalation of carbonic acid; a feeble atmospheric pressure acts altogether contrary."

In connection with these observations it may also be of importance to remember that under barometrical minima and under maxima of temperature a high rate of relative humidity prevails, owing to an interference with normal evaporation, a warm and saturated moist air then supervening, and that in such an atmosphere the state of the calorific in the animal economy cannot properly be equalized, thus reacting morbifically on the human organism.

In these few lines here cited is expressed nature's law, upon which the fluctuations of health and disease are dependent—the law of biology—and the facts therein contained have been gathered and are universally corroborated by extensive and most careful observations. In addition to this, exact or proportionate influence and force of reaction have been determined by direct experiments in the physiological laboratory. The data thus gained are the following: At 749.02 m. m. of atmospheric pressure ($760.00 = 30.00$ inches being the normal mean), the average frequency of the pulse is found to be 70.9 per minute; respiration 11.58 with a volume of air exhaled of 6121 cubic centimetres, containing 272.5 or 4.45 per cent of carbonic acid. At 761.18 m. m. the pulse rates 72.2 respiration 12.32, the exhaled air 6607 c. m., which is said to contain 271.1 or 4.14 per cent of carbonic acid. (Samuel.)¹

With the same precision as the law of the occurrence and the prognostication of storms have been demonstrated by the formation of the barometrical minimum, the physical influences in the causation of epidemics are now demonstrated, and, what is surprising, prove to be nearly identical, namely, where the atmospheric pressure is reduced and an increase of heat and a diminution of rainfall prevails, there and then yellow fever originates.

These conditions are essential to the development of this fever, for yellow fever, as well as all other fevers, consists essentially in a morbid process in the human organism, of which the material is generated therein, owing to the reaction of those physical influences that are irregular in their general character at a given lo-

1. The discrepancy expressed by these data is fully corrected by facts of observation used by Flint—*Physiol.* vol., respirat. p. 441—namely, that in low temperature (= higher atmospheric pressure) more carbonic acid is exhaled than in elevated temperature. These facts are also abundantly corroborated by Happe-Seyler. *Physiol. Chem.*, part III, pp. 562-564.

cality. Hence nothing else can be said of a yellow fever epidemic than that it is a transitory physical phenomenon, like all other phenomena in nature, and that it is exclusively dependent upon the peculiar character of influences which, in the reaction, *force* this disease to occur and to prevail until their nature changes by the reduction of the atmospheric temperature to 32° F.

The speaker then quoted the writings of Prof. Happe-Seyler, to prove that when the temperature is high there is a diminution of absorption of oxygen, and necessarily a diminution of the exhalation of carbonic acid; when, on the other hand, the temperature is low, the reverse takes place. He next quoted from a paper by Prof. Joli, in the proceedings of the Academy of Science of Munich, in order to controvert the common assertion that the air has the same composition anywhere, and at all times. Prof. Joli's direct measurements proved the incorrectness of that theory. It appeared that on the 13th of June, under a west wind, the air contained 20.53 of oxygen; on the 27th of October, under a north wind, it contained 21.01 of oxygen. It was also found that when the air was cold, as under a polar wind, it contained a high percentage of oxygen, and under an equatorial wind a lower percentage.

By comparing the meteorological reports from different Southern cities, he finds that certain conditions prevailing one year predispose to yellow fever, and that unless these are neutralized by contrary conditions, there will be an epidemic of that disease the following year. In Charleston, in 1875, the mean of the barometer was about normal; the thermometric mean was $\frac{3}{100}$ over the general mean, and the rainfall was $5\frac{28}{100}$ inches deficient, as compared with the average for the summer months. This was the predisposition.

In 1876 the barometer indicated a minus of $\frac{2}{1000}$, the thermometer an excess of 2° , but the rainfall was over the normal mean for the summer months by $1\frac{75}{100}$ inches. Therefore the influences of the year previous were neutralized.

In New Orleans 1877 was a year of predisposing influences. There is a deficient barometric pressure of $\frac{5}{100}$, and an excess of temperature of $\frac{9}{10}$, with an excess of rainfall of 1.78. The influences which predisposed were a deficiency of barometric pressure and an increase of temperature. Now in 1878 the variations were a deficiency of barometric pressure of $\frac{5}{100}$, a deficiency of temperature of .6, and a deficiency of rainfall of .85. So that the morbid influences were not neutralized in 1878, and New Orleans suffered severely from the epidemic.

Several cases of yellow fever originated in St. Louis in 1878. We find the predisposing influences in 1877 were the following: Deficient barometric pressure of 00.01; reduction of temperature, 00.7; deficiency of rainfall, 1.09. In 1878 the temperature was extreme. In the month of April the barometric pressure was 00.21 below the normal mean; the thermometer 9.5° over

the normal mean, and the rainfall in excess 2.88 inches. During the summer months there were the following efficient factors, viz., diminution of barometric pressure, .03; excess in temperature, 1.1°; diminution of rainfall, .19. These influences explain why yellow fever prevailed over so large a territory in 1878.

The meteorological reports of Memphis from January to July, 1879, show that as soon as the heat became extreme, the barometric pressure being below the mean and the rainfall being deficient, yellow fever sprang up. The doctor thinks this disease is principally due to obstruction in the liver. If the liver cells be not pressed on too severely, the functions of the organ will be properly performed and health will be maintained. He said that under a variety of atmospheric conditions there was a difference in the absorption of oxygen and exhalation of carbonic acid and the ultimate result was principally to be attributed to the retention of carbonic acid in the system. It was the accumulated volume of that gas in the body, pressing upon the circulation, that caused the disturbance, mechanical as well as chemical. An undue quantity of carbonic acid in the circulating fluid would give a yellowish hue to the skin, and whether the disease prevailed was simply dependent on the structural changes that took place in the liver.

DR. W. JOHNSTON said he was surprised to hear that carbonic acid retained in the system caused yellow fever. A few years ago Dr. Shumard came to the conclusion that bilious fever was due to the retention of impurities and of carbonic acid. Under this conviction he administered to his patients oxygen, but unfortunately his patients died. This was nothing new, the doctrine of the retention of carbonic acid; it was as old as Hippocrates. We do not know what it is that causes yellow fever. If it depended upon a change of temperature or other meteorological conditions, why was not the whole South affected by it? This theory would not account for the phenomena presented. He thought it was more reasonable to believe that the process of putrefaction in tropical climates gave rise to some new organism and that the inhalation of this caused the disease.

DR. C. H. HUGHES thought that the fact that during the prevalence of yellow fever a lowering of the temperature facilitates the spread of the disease and temporarily increases the fatality, unless the thermometer goes below zero, *opposed* the ground taken in the essay.

DR. SPINZIG admits "that a momentary reduction of temperature does not lessen the frequency of the cases," but claims that the number of cases does decrease as soon as there is a prolonged or permanent fall in temperature.

DR. A. GREEN said if he understood the paper, it held that the retention of carbonic acid in the system and the diminution of oxygen caused yellow fever. If that was so, the respiratory organs ought to be most susceptible to attacks of the yellow fever. He thought he could explain why, if the temperature fell at once, so many people were attacked with yellow fever. Those persons have taken the poison into their system, and it is there, latent, until awakened to activity by changes of temperature.

DR. SPINZIG said that a momentary increase or decrease of summer temperature is not sufficient cause for the fluctuations in a yellow fever epidemic; the low pressure of the air and diminution of rainfall are two additional and powerful agencies in the production of the fever. Under variations of these three vital influences the system may be changed as to physiological actions, either healthfully or morbidly, and in their potentiality of reaction is to be found the causes for the differences in the character of the fevers that are thereby produced.

It may be seen that under those meteorological variations which prevailed at the localities where yellow fever existed, carbonic acid is retained in the system very largely, and will thus morbidly interfere with the metamorphosis of tissue, terminating finally in the formation of the signs of this fever, partly from the decomposition of the hæmoglobin.

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It has come to our knowledge that certain articles extensively advertised as "pure" and "genuine extract of malt," are composed chiefly of the substance called GRAPE SUGAR or MALTINE, which, as is well-known, is the product of the action of the sulphuric acid upon starch subjected to a high temperature. This artificial grape sugar of glucose: which is extensively manufactured from corn starch, is now being used in immense quantities, instead of ordinary cane sugar, in the sophistication of confectionery sugar-house syrup, "strained honey" native wines, and canned fruits, and by some brewers in the manufacture of beer and ale. The cheapness of this artificial product of Indian corn, constitutes the chief inducement for this species of substitution for barley malt and sugar cane.

Again, an extract of malted grain is manufactured for the purpose of obtaining *diastase*, which, (simple and variously combined) is much used in medicine. The appearance of the extract is but slightly changed by being deprived of this important constituent, although, it is unnecessary to add, that its value as a medicinal agent is thereby greatly impaired. Nevertheless, this very substance, which is little more than refuse material, in the manufacture of diastase, is now being offered for pure malt extract.

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Attention is respectfully directed to the accompanying extract from Ziemssen, and also to our circular and testimonials elsewhere printed.

Very respectfully,
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FROM ZIEMSEN'S CYCLOPEDIA OF THE PRACTICE OF MEDICINE, VOL. XVI, PAGE 474 :

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 ROBT. SATTLER, M. D. Lecturer on Diseases of the Eye and Ear.
 A. D. BENDER, M. D., Lecturer on Laryngoscopy and Diseases of the Throat and Demonstrator of Anatomy.
 C. A. LE BOUTILLIER, M. D., Lecturer on Surgical Dressings.
 CHAS. W. MATHERS, M. D., Demonstrator of Anatomy.

THE PRELIMINARY TERM of Lectures will begin September 3d, 1879, and continue one month. This course will be one of *unusual interest and importance* to physicians as well as students.

THE REGULAR WINTER SESSION will begin October 1st, 1879 and continue five months. This course will consist of Didactic Lectures with Demonstrations, Recitations, Clinical and Special Instruction, involving Physical Manipulations. From five to six Didactic Lectures and Demonstrations are delivered daily, covering the general topics of Medicine and Surgery as taught in all regular medical colleges.

CLINICS.—The Faculty confidently announce that students have, in this college, unsurpassed clinical advantages. *Four Special Clinics* are held daily in the college building (at which more than six thousand patient are examined annually), viz: In Practice Surgery, Gynecology, Diseases of Children, Ophthalmology and Laryngology, in all of which advanced students have opportunities to make full examinations, especially in *Thoracic Diseases and Gynecology*, and frequently to witness *Obstetric* cases. These clinics are free to students of the college. Two clinical lectures are delivered daily at the Cincinnati Hospital (near the college), during the entire college session.

The College also affords the fullest advantages in *Practical Chemistry, Practical Anatomy, Practical Physiology and Microscopy*.

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THIRTY-NINTH SESSION, 1879-80.

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 ALFRED C. POST, M. D., LL. D., Emeritus Professor of Clinical Surgery, President of the Faculty.
 CHARLES INSLEE PARDEE, M. D., Professor of Diseases of the Ear, Dean of the Faculty.
 JOHN T. DARBY, M. D., Emeritus Professor of Surgery.
 JOHN C. DRAPER, M. D., LL. D., Professor of Chemistry.
 ALFRED L. LOOMIS, M. D., Professor of Pathology and Practice of Medicine.
 WILLIAM DARLING, A. M., M. D., F. R. C. S., Professor of Anatomy.

WILLIAM H. THOMPSON, M. D., Professor of Mat. Med. and Therapeutics.
 J. W. S. ARNOLD, M. D., Professor of Physiology and Histology.
 J. WILLISTON WRIGHT, M. D., Professor of Surgery.
 WM. M. POLK, M. D., Prof. of Obstetrics and Dis. Women and Children.
 FANEUIL D. WEISSE, M. D., Professor of Practical and Surgical Anatomy.
 LEWIS A. STIMSON, M. D., Professor of Pathological Anatomy.
 A. L. RANNEY, M. D., Adjunct Professor of Anatomy.
 JOSEPH E. WINTERS, M. D. Demonstrator of Anatomy.

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 WM. A. HAMMOND, M. D., Professor of Dis. of the Mind and Nerv. System.
 STEPHEN SMITH, M. D., Professor of Orthopedic Surgery.
 J. W. S. GOULEY, M. D., Professor of Diseases of Genito-Urinary System.

MONTROSE A. Pallen, M. D., Professor of Gynecology.
 HENRY G. PIFFARD, M. D., Professor of Dermatology.
 A. E. MACDONALD, M. D., Professor of Medical Jurisprudence.
 JAMES L. LITTLE, M. D., Clinical Professor of Surgery.

THE COLLEGIATE YEAR is divided into three Sessions—a Preliminary Session, a Regular Winter Session and a Spring Session.

THE PRELIMINARY SESSION will commence September 17, 1879, and will continue until the opening of the Regular Winter Session. It will be conducted on the plan of that Session.

THE REGULAR WINTER SESSION will commence on the first of October, 1879, and end about the first of March, 1880.

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